Incident Number: nAB1620452870

Amdended Release Assessment and Closure

Cotton Draw 14 Fed Com #001H

Unit D, Section 14, Township 25 South, Range 31 East
API: 30-015-42091
County: Eddy
Vertex File Number: 23E-04453

Prepared for:
Devon Energy Production Company, LP

Prepared by:
Vertex Resource Services Inc.

Date:
June 2025

Received by OCD: 6/6/2025 11:49:16 AM

Release Assessment and Closure
Cotton Draw 14 Fed Com #001H
Unit D, Section 14, Township 25 South, Range 31 East
API: 30-015-42091
County: Eddy

Prepared for:

Devon Energy Production Company, LP
5315 Buena Vista Dr
Carlsbad, NM 88220

New Mexico Oil Conservation Division – District 2
506 W Texas Avenue
Artesia, New Mexico 88210

Prepared by:
Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad, New Mexico 88220

Stephanie McCarty

Stephanie McCarty, B.Sc.
ENVIRONMENTAL SPECIALIST, REPORTING

June 3, 2025
Date

Sally Carttar

Sally Carttar, BA
PROJECT MANAGER, REPORT REVIEW

June 3, 2025
Date

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Table of Contents

Released to Imaging: 7/16/2025 3:05:38 PM

Received by OCD: 6/6/2025 11:49:16 AM

In-text Tables

List of Figures

List of Tables

List of Appendices

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1.0 Introduction

Devon Energy Production Company, LP (Devon) retained Vertex Resource Services Inc. (Vertex) to conduct a Release Assessment and Closure for a produced water release that occurred on July 17, 2016, at Cotton Draw 14 Federal Com #001H API: 30-015-42091 (hereafter referred to as the "site"). Devon submitted an initial C-141 Release Notification (Appendix A) to New Mexico Oil Conservation Division (NMOCD) District 2 on July 19, 2016. Incident ID number nAB1620452870 was assigned to this incident.

This report provides a description of the release assessment and remediation activities associated with the site. The information presented demonstrates that closure criteria established in Table I of 19.15.29.12 of the *New Mexico Administrative Code* (NMAC; New Mexico Oil Conservation Division, 2018) related to NMOCD has been met and all applicable regulations are being followed. This document is intended to serve as a final report to obtain approval from NMOCD for closure of these releases, with the understanding that restoration of these release sites will be completed when all oil and gas activities are terminated, and the site is reclaimed per NMAC 19.15.29.13.

2.0 Incident Description

The release occurred on July 17, 2016, due to a valve on a load line left open, resulting in produced water released onto the pad, west of the tank containment. The incident was reported on July 19, 2016, and involved the release of approximately 60 barrels (bbl) of produced water. Approximately 45 bbl were recovered during the initial clean-up. Additional details relevant to the release are presented in the C-141 Report (Appendix A).

3.0 Site Characteristics

The site is located approximately 19.5 miles southeast of Malaga, New Mexico, at 32.1367226, -103.7535248 (Google Inc., 2024). The legal location for the site is Unit D, Section 14, Township 25 South and Range 31 East in Eddy County, New Mexico. The release area is located on Bureau of Land Management property. An aerial photograph and site schematic are presented in Figure 1.

The location is typical of oil and gas exploration and production sites in the Permian Basin and is currently used for oil and gas production, and storage. The following sections specifically describe the release area at the site on or in proximity to the constructed pad (Figure 1).

The surrounding landscape is associated with upland landforms with elevations ranging between 1,800 and 5,000 feet. The climate is semiarid with average annual precipitation ranging between 8 and 24 inches. Using information from the United States Department of Agriculture, the dominant vegetation was determined to be grasses with scattered shrubs. (United States Department of Agriculture, Natural Resources Conservation Service, 2024). Limited to no vegetation is allowed to grow on the compacted production pad, right-of-way and access road.

The surface geology at the site primarily comprises Qep – Eolian and piedmont deposits from the Holocene to middle Pleistocene (New Mexico Bureau of Geology and Mineral Resources, 2024) and the soil at the site is characterized as gravelly fine sandy loam (United States Department of Agriculture, Natural Resources Conservation Service, 2024).

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Additional soil characteristics include a drainage class of well drained with a very high runoff class. The karst geology potential for the site is low (United States Department of the Interior, Bureau of Land Management, 2018).

4.0 Closure Criteria Determination

The depth to groundwater was determined by drilling exploratory borehole C 04912 POD1 permitted by the New Mexico Office of the State Engineer (NMOSE) within a 0.5-mile radius of the site. The borehole was located approximately 332 feet northeast of the area of concern and advanced to a depth of 55 feet on December 3, 2024. The borehole was left to recharge as per the requirements on the WR-07 Application for Permit to Drill a Well with No Water Rights, and an interface probe was utilized to determine whether groundwater was present at the conclusion of the 72-hour recharge period. No water was found to be present at that time. The borehole was plugged and abandoned on December 6, 2024, according to the WD-08 permit, Well Plugging Plan of Operations, filed with NMOSE. The well log for exploratory borehole C 04912 POD1 is included in Appendix B.

There is no surface water present at the site. The nearest significant watercourse, as defined in Subsection P of 19.15.17.7 NMAC, is an intermittent stream located approximately 3.9 miles west of the site (United States Fish and Wildlife Service, 2024). At the site, there are no continuously flowing watercourses or significant watercourses, lakebeds, sinkholes, playa lakes or other critical water or community features as outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC. Information pertaining to the closure criteria determination is summarized in Table 1 and references are included in Appendix B.

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Table 1. Closure Criteria Determination			
Site Name: Cotton Draw 14 Fed Com #001H			
Spill Coordinates: 32.136589,-103.754119		X: 617509	Y: 3556255
Reference	**Site Specific Conditions**	**Value**	**Unit**
1	Depth to Groundwater (nearest reference)	51-100 ft	
	Distance between release and nearest DTGW reference	300 - 500 ft	
	Date of nearest DTGW reference measurement	December 3, 2024	
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	1 - 5 mi	
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	5mi >	
4	Within 300 feet from an occupied residence, school, hospital, institution or church	5mi >	
5	i) Within 500 feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, **or**	1 - 5 mi	
	ii) Within 1000 feet of any fresh water well or spring	1 - 5 mi	
6	Within incorporated municipal boundaries or within a defined municipal fresh water field covered under a municipal ordinance adopted pursuant to Section 3-27-3 NMSA 1978 as amended, unless the municipality specifically approves	No	(Y/N)
7	Within 300 feet of a wetland	0.5 - 1 mi	
8	Within the area overlying a subsurface mine	No	(Y/N)
	Distance between release and nearest registered mine	5mi >	
9	Within an unstable area (Karst Map)	Low	Critical High Medium Low
	Distance between release and nearest unstable area	1 - 5 mi	
10	Within a 100-year Floodplain	>500	year
	Distance between release and nearest FEMA Zone A (100-year Floodplain)	1 - 5 mi	
11	Soil Type	Gravelly fine sandy loam, indurated	
12	Ecological Classification	Shallow Sandy	
13	Geology	Eolian and piedmont deposits	
	NMAC 19.15.29.12 E (Table 1) Closure Criteria	51-100'	<50' 51-100' >100'

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The closure criteria determined for the site are associated with the following constituent concentration limits as presented in Table 2.

Table 2. Closure Criteria for Soils Impacted by a Release

Minimum depth below any point within the horizontal boundary of the release to groundwater less than 10,000 mg/l TDS	Constituent	Limit
51 feet - 100 feet	Chloride	10,000 mg/kg
	TPH (GRO+DRO+MRO)	2,500 mg/kg
	GRO+DRO	1,000 mg/kg
	BTEX	50 mg/kg
	Benzene	10 mg/kg

TDS – total dissolved solids
TPH – total petroleum hydrocarbons, GRO – gas range organics, DRO – diesel range organics, MRO – motor oil range organics
BTEX – benzene, toluene, ethylbenzene and xylenes

5.0 Remedial Actions Taken

Site characterization of the release area west of the tank battery containment was completed by Vertex between August 15, 2023, and December 6, 2024, including horizontal delineation. The area of concern was determined to be 1,540 square feet with a perimeter of 128 feet. The area of concern was scraped shortly after the release. No exceedances to closure criteria were found during characterization. Initial characterization field screening results are presented in Table 3. The Daily Field Reports associated with characterization are included in Appendix C. The laboratory data reports are included in Appendix D.

On February 6, 2025, Vertex personnel conducted field screening of eight confirmatory samples collected at 200-square-foot intervals across the entire release area. The samples were analyzed using a Photo Ionization Detector (volatile hydrocarbons), Dexsil Petroflag using EPA SW-846 Method 9074 (extractable hydrocarbons) and Silver Nitrate Titration (chlorides). Laboratory results were used to determine that the removal of impacted soil was deemed unnecessary given that contaminant levels do not exceed regulatory thresholds. The Daily Field Report associated with the sampling event is in Appendix C.

Notifications that confirmatory samples were being collected were provided to the NMOCD on February 4, 2025. Confirmatory composite samples were collected from the release area in 200 square foot increments. A total of 8 confirmation base samples were collected for laboratory analysis following NMOCD soil sampling procedures. Samples were submitted to Eurofins Laboratory (formerly Hall Environmental Analysis Laboratory) under chain-of-custody protocols and analyzed for BTEX (EPA Method 8021B), total petroleum hydrocarbons (GRO, DRO, MRO – EPA Method 8015D) and total chlorides (EPA Method 300.0). Laboratory results are presented in Table 4, and the laboratory data reports are included in Appendix E. All confirmatory samples collected and analyzed were below the closure criteria for the site.

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5.1 Closure Denial

On May 12, 2025, the closure report was denied for the following,

"Please be advised that step-out sampling locations off-pad cannot be used to delineate a release on-pad. If you're trying to delineate a release on pad, it must be delineated before it leaves the pad. Sample locations BH24-10 and BH24-11 will need to be conducted as sidewalls or edge samples on-pad to delineate the edge of the release. Any release that is fully or partially off pad requires sidewalls to mark the exact edge of the release area."

Denial concerns were addressed and samples BH24-10 and BH24-11 were stepped out to the west, on the pad and to the east of the site's berm, to delineate the edge of the release. Samples BH25-12 and BH25-13 were determined as the edge or sidewalls to mark the edge of the release area, contained to pad. The sampling locations can be found on Figure 1 and in the associated Daily Field Report included in Appendix C.

6.0 Closure Request

The release area was fully delineated and no exceedances to closure criteria of allowable concentrations as per the NMAC Closure Criteria for Soils Impacted by a Release, located "between 51 and 100 feet to groundwater" were found during characterization. Excavation of the top 4 feet of soils that exceed 600 mg/kg chloride will be removed during reclamation of site as per NMAC 19.15.29.13. Based on these findings, Devon Energy Production Company, LP, requests that this release be closed.

Should you have any questions or concerns, please do not hesitate to contact Sally Carttar at 575-361-3561 or scarttar@vertexresource.com

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7.0 References

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8.0 Limitations

This report has been prepared for the sole benefit of Devon Energy Production Company, LP. This document may not be used by any other person or entity, with the exception of the New Mexico Oil Conservation Division and the Bureau of Land Management, without the express written consent of Vertex Resource Services Inc. (Vertex) and Devon Energy Production Company, LP. Any use of this report by a third party, or any reliance on decisions made based on it, or damages suffered as a result of the use of this report are the sole responsibility of the user.

The information and conclusions contained in this report are based upon work undertaken by trained professional and technical staff in accordance with generally accepted scientific practices current at the time the work was performed. The conclusions and recommendations presented represent the best judgement of Vertex based on the data collected during the assessment. Due to the nature of the assessment and the data available, Vertex cannot warrant against undiscovered environmental liabilities. Conclusions and recommendations presented in this report should not be considered legal advice.

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FIGURES

VERTEX

0 20 40 ft

NAD 1983 StatePlane New Mexico East FIPS 3001 Feet

Map Center:
Lat/Long: 32.136616°N, 103.754025°W

Date: May 31/25

N

Characterization Sampling Site Schematic
Incident ID# nAB1620452870
Cotton Draw 14 Fed Com #1H

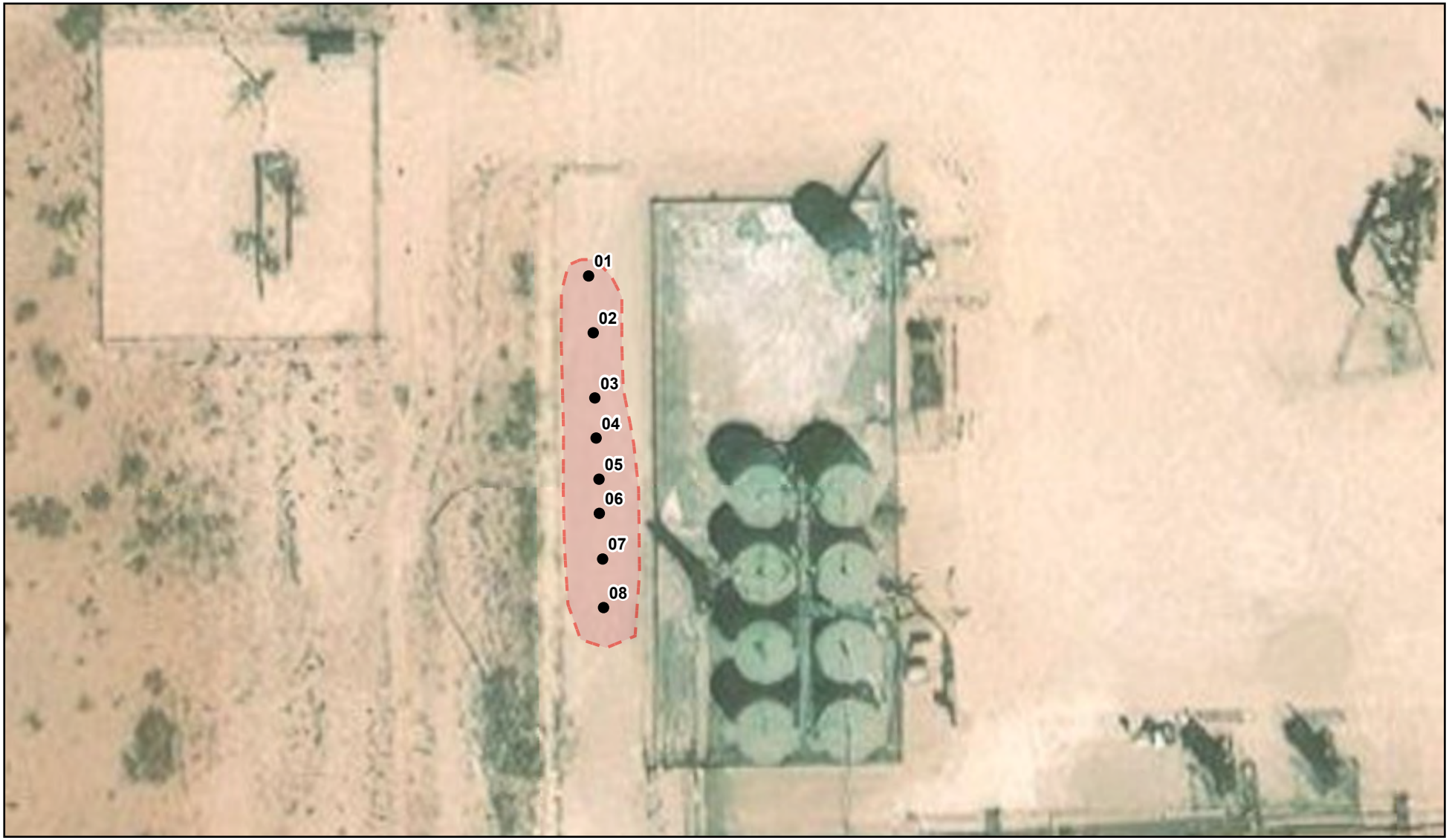
FIGURE: 1

devon

Geospatial data presented in this figure may be derived from external sources and Vertex does not assume any liability for inaccuracies. This figure is intended for reference use only and is not certified for legal, survey, or engineering purposes.

Note: Georeferenced image from Esri, 2025. Site features from GPS, Vertex, 2025.

VERSATILITY. EXPERTISE.



● Base Sample (Prefixed by "BS25-") Approximate Release Area (~1,540 sq.ft. | 128 ft.)

VERTEX

0 25 50 ft

NAD 1983 UTM Zone 13N

Date: Feb 06/25

Map Center:
Lat/Long
32.136703°,-103.754036°

N

Confirmation Sampling Site Schematic
Cotton Draw 14 Fed Com #1H

FIGURE:
2

devon

Geospatial data presented in this figure may be derived from external sources and Vertex does not assume any liability for inaccuracies. This figure is intended for reference use only and is not certified for legal, survey, or engineering purposes.

Note: Georeferenced image from Esri, 2022. Approximate Release Area from GPS by Vertex Professional Services Ltd., 2024.
Base Sample Area from GPS by Vertex Professional Services Ltd., 2025.

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Document Path: S:\04 - Geomatics\1-Projects_US PROJECTS\Devon Energy Corporation\2023\23E-04453 - Cotton Draw 14 Fed Com #001H\Project\23E-04453 Cotton Draw 14 Fed Com #1H.aprx

TABLES

Client Name: Devon Energy Production Company, LP
Site Name: Cotton Draw 14 Fed Com #001H
NMOCD Tracking #: nAB1620452870
Project #: 23E-04453
Lab Reports: 2308964, 2308A29, 2308C20, 2402008, E412102 and 885-25572

Table 3. Initial Characterization Sample Field Screen and Laboratory Results - Depth to Groundwater 51 - 100 feet bgs

Sample Description			Field Screening			Lab Report							
						Petroleum Hydrocarbons							Inorganic
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BH23-01	0	August 15, 2023	0	19	295	ND	ND	ND	ND	ND	ND	ND	ND
	2	August 15, 2023	0	37	940	ND	ND	ND	ND	ND	ND	ND	600
	4	August 15, 2023	0	55	892	ND	ND	ND	ND	ND	ND	ND	590
	5	August 16, 2023	0	12	1,005	ND	ND	ND	ND	ND	ND	ND	630
	6	January 30, 2024	0	25	402	ND	ND	ND	ND	ND	ND	ND	580
BH23-02	0	August 15, 2023	0	25	372	ND	ND	ND	ND	ND	ND	ND	ND
	2	August 15, 2023	0	24	270	ND	ND	ND	ND	ND	ND	ND	ND
	4	August 15, 2023	0	26	350	ND	ND	ND	ND	ND	ND	ND	ND
BH23-03	0	August 15, 2023	0	75	687	ND	ND	ND	ND	ND	ND	ND	500
	2	August 15, 2023	0	30	255	ND	ND	ND	ND	ND	ND	ND	74
BH23-04	0	August 16, 2023	0	52	335	ND	ND	ND	ND	ND	ND	ND	ND
	2	August 16, 2023	0	39	342	ND	ND	ND	ND	ND	ND	ND	ND
BH23-05	0	August 16, 2023	0	46	1,055	ND	ND	ND	ND	ND	ND	ND	770
	2	August 16, 2023	0	52	1,075	ND	ND	ND	ND	ND	ND	ND	670
BH23-06	0	August 16, 2023	0	17	370	ND	ND	ND	ND	ND	ND	ND	100
	2	August 16, 2023	0	41	422	ND	ND	ND	16	ND	16	16	160
BH23-07	0	August 16, 2023	0	67	283	ND	ND	ND	37	ND	37	37	ND
	2	August 16, 2023	0	27	422	ND	ND	ND	ND	ND	ND	ND	ND
BH23-08	0	August 17, 2023	0	49	314	ND	ND	ND	ND	ND	ND	ND	120
	2	August 17, 2023	2	62	330	ND	ND	ND	ND	ND	ND	ND	160
BH23-09	0	August 17, 2023	0	38	275	ND	ND	ND	ND	ND	ND	ND	ND
	2	August 17, 2023	2	43	210	ND	ND	ND	ND	ND	ND	ND	ND
BH24-10	0	December 11, 2024	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
	2	December 11, 2024	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
	4	December 11, 2024	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
	6	December 11, 2024	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
BH24-11	0	December 11, 2024	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
	2	December 11, 2024	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
	4	December 11, 2024	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND
BH24-12	0	May 23, 2025	-	39	0	ND	ND	ND	ND	ND	ND	ND	ND
	2	May 23, 2025	-	41	70	ND	ND	ND	ND	ND	ND	ND	300
BH24-13	0	May 23, 2025	-	35	0	ND	ND	ND	ND	ND	ND	ND	ND
	2	May 23, 2025	-	54	0	ND	ND	ND	ND	ND	ND	ND	ND

"ND" Not Detected at the Reporting Limit
"-" indicates not analyzed/assessed
Bold and grey shaded indicates exceedance outside of NMOCD Remediation Closure Criteria
Bold and green shaded indicates exceedance outside of NMOCD Reclamation Closure Criteria

Client Name: Devon Energy Production Company, LP
Site Name: Cotton Draw 14 Fed Com 1H
NMOCD Tracking #: nAB1620452870
Project #: 23E-04453
Lab Reports: 885-19592-1

Table 4. Confirmatory Sample Laboratory Results

Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
						Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (PetroFlag)	Chloride Concentration	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
			(ppm)	(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
			Depth to Groundwater 51-100 feet bgs										
BS25-01	0	February 6, 2025	-	2	625	ND	ND	ND	ND	ND	ND	ND	150
BS25-02	0	February 6, 2025	-	98	1,125	ND	ND	ND	10	ND	10	10	1000
BS25-03	0	February 6, 2025	-	14	2,088	ND	ND	ND	12	ND	12	12	1900
BS25-04	0	February 6, 2025	-	15	1,313	ND	ND	ND	ND	ND	ND	ND	1000
BS25-05	0	February 6, 2025	-	18	3,410	ND	ND	ND	22	ND	22	22	2600
BS25-06	0	February 6, 2025	-	277	2,300	ND	ND	ND	35	54	89	89	1300
BS25-07	0	February 6, 2025	-	268	925	ND	ND	ND	43	83	126	126	380
BS25-08	0	February 6, 2025	-	192	653	ND	ND	ND	21	ND	21	21	90

"ND" Not Detected at the Reporting Limit
"-" indicates not analyzed/assessed
Bold and grey shaded indicates exceedance outside of NMOCD Remedation Closure Criteria

VERTEX

APPENDIX A - NMOCD C-141 Report

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

NM OIL CONSERVATION
ARTESIA DISTRICT
JUL 19 2016
RECEIVED

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

nAB1620452870

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Devon Energy Production Company 6137	**Contact** Jake Harrington , Production Foreman
Address 6488 Seven Rivers Hwy Artesia, NM 88210	**Telephone No.** 432-214-5175
Facility Name Cotton Draw 14 Fed Com #1H	**Facility Type** Oil

Surface Owner Federal	**Mineral Owner** Federal	**API No** 30-015-42091

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	14	25S	31E	330	North	1150	West	Eddy

Latitude: 32.1367226 **Longitude:** -103.7535248

NATURE OF RELEASE

Type of Release Produced water	**Volume of Release** 60 BBLS	**Volume Recovered** 45 BBLS
Source of Release Balon ball valve	**Date and Hour of Occurrence** 7/17/2016 @ 7:00pm	**Date and Hour of Discovery** 7/17/2016 @ 7:00pm
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	**If YES, To Whom?** OCD- Mike Bratcher BLM- Shelly Tucker	
By Whom? *Hubert Perry, Night Production Foreman*	**Date and Hour** *OCD- 7/17/2016 @ 9:30pm* BLM- 7/18/2016 @ 2:20pm	
Was a Watercourse Reached? ☐ Yes ☒ No	**If YES, Volume Impacting the Watercourse** N/A	

If a Watercourse was Impacted, Describe Fully.* N/A

Describe Cause of Problem and Remedial Action Taken.*
60 BBLS produced water was released from the Balon valve on the load line due to being left open. The valve was shut in immediately to prevent further release. All tanks returned to operation once valve was properly closed.

Describe Area Affected and Cleanup Action Taken.*
60 BBLS of produced water was released when the Balon valve on the load line was left open. All released produced water remained on Pad. The area affected was on the Western portion of the Pad. The total affected area was 20' hy 75' flowing in a Westerly direction. No released fluid left location. Vacuum truck recovered approximately 45 BBLS of the released produced water. Environmental agency will be contacted for remediation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: Sarah Gallegos-Troublefield	OIL CONSERVATION DIVISION
Printed Name: Sarah Gallegos-Troublefield	Approved by Environmental Specialist:
Title: Field Admin Support	Approval Date: 7/21/16 Expiration Date: N/A
E-mail Address: Sarah.Gallegos-Troublefield@dvn.com	Conditions of Approval: Attached ☐
Date: 7/18/2016 Phone: 575.748.1864	Remediation per O.C.D. Rules & Guidelines SUBMIT REMEDIATION PROPOSAL NO LATER THAN: 8/25/16

* Attach Additional Sheets If Necessary

2RP-3793

Patterson, Heather, EMNRD

From: Gallegos-Troublefield, Sarah <Sarah.Gallegos-Troublefield@dvn.com>
Sent: Wednesday, July 20, 2016 6:58 AM
To: jamos@blm.gov; Tucker, Shelly; Patterson, Heather, EMNRD; Bratcher, Mike, EMNRD
Cc: Fulks, Brett; Scrogum, Sandy
Subject: Cotton Draw 14 Fed Com 1H_60BBLS PW_7-17-16_Initial C-141
Attachments: Cotton Draw 14 Fed Com 1H_60 BBLS PW_7-17-16_Pic 4 of 4.JPG; Cotton Draw 14 Fed Com 1H_60 BBLS PW_7-17-16_GIS Image.pdf; Cotton Draw 14 Fed Com 1H_60 BBLS PW_7-17-16_Pic 1 of 4.JPG; Cotton Draw 14 Fed Com 1H_60 BBLS PW_7-17-16_Pic 2 of 4.JPG; Cotton Draw 14 Fed Com 1H_60 BBLS PW_7-17-16_Pic 3 of 4.JPG; Cotton Draw 14 Fed Com 1H_60 BBLS PW_7-17-16_Intial C-141.doc

Good morning,

Attached is the Initial C-141, GIS Image and 4 photo of the Cotton Draw 14 Fed Com 1H release of 60 BBLS produced water that occurred on 7/17/2016. Please be advised that the blue dot in the GIS Image represents the approximate location of the release.
Please contact me with any questions you may have.

Thank you and have a wonderful day.

Respectfully,

Sarah Gallegos-Troublefield
Field Admin Support
Production

Devon Energy Corporation
P.O. Box 250
Artesia, NM 88211
575 748 1864 Direct Line

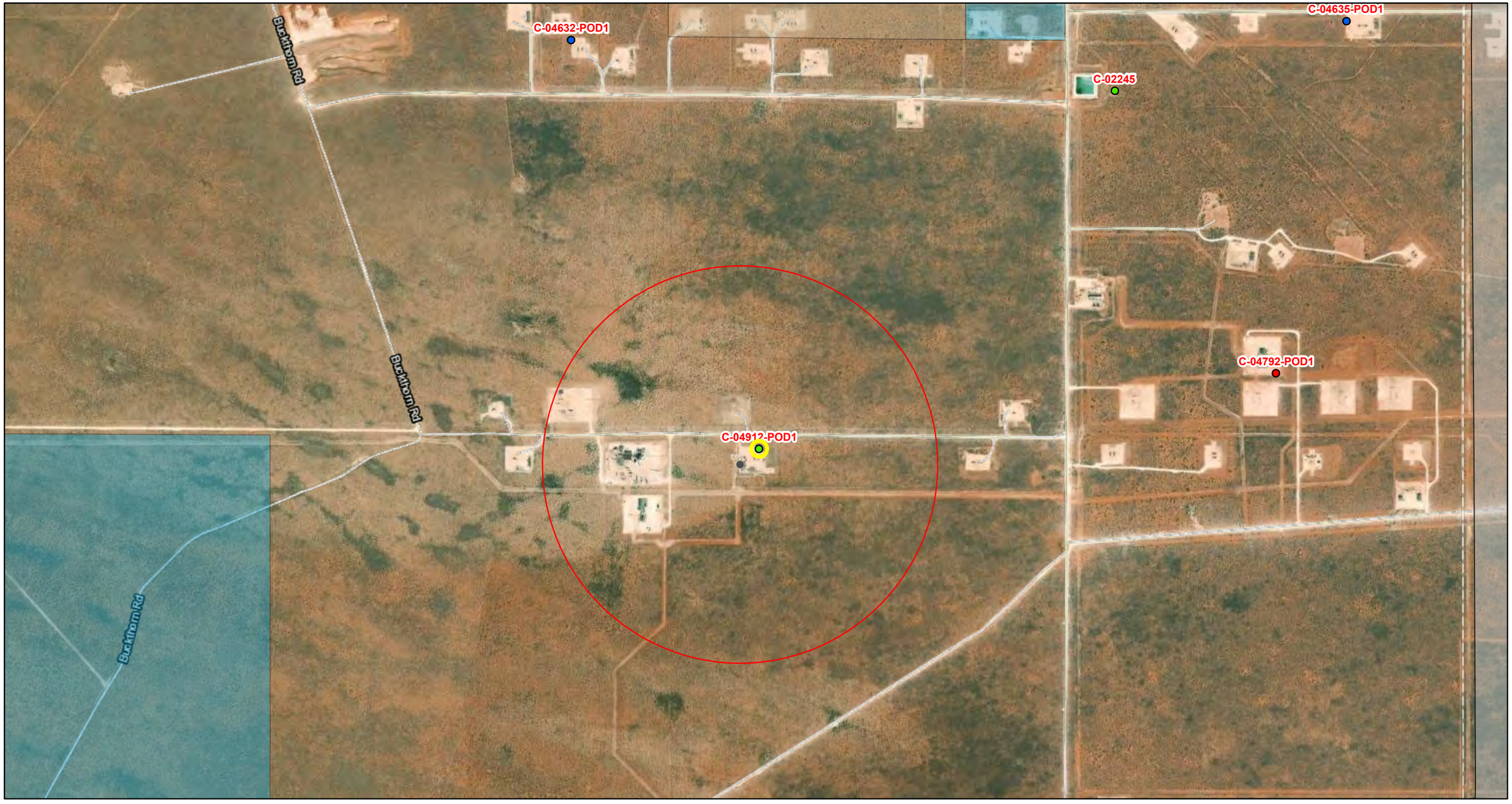
devon

Confidentiality Warning: This message and any attachments are intended only for the use of the intended recipient(s), are confidential, and may be privileged. If you are not the intended recipient, you are hereby notified that any review, retransmission, conversion to hard copy, copying, circulation or other use of all or any portion of this message and any attachments is strictly prohibited. If you are not the intended recipient, please notify the sender immediately by return e-mail, and delete this message and any attachments from your system.

APPENDIX B – Closure Criteria Research Documentation

Closure Criteria Determination			
Site Name: Cotton Draw 14 Fed Com #001H			
Spill Coordinates: 32.136589,-103.754119		X: 617509	Y: 3556255
Reference	**Site Specific Conditions**	**Value**	**Unit**
1	Depth to Groundwater (nearest reference)	51-100 ft	
	Distance between release and nearest DTGW reference	300 - 500 ft	
	Date of nearest DTGW reference measurement	December 3, 2024	
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	1 - 5 mi	
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	5mi >	
4	Within 300 feet from an occupied residence, school, hospital, institution or church	5mi >	
5	i) Within 500 feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, **or**	1 - 5 mi	
	ii) Within 1000 feet of any fresh water well or spring	1 - 5 mi	
6	Within incorporated municipal boundaries or within a defined municipal fresh water field covered under a municipal ordinance adopted pursuant to Section 3-27-3 NMSA 1978 as amended, unless the municipality specifically approves	No	(Y/N)
7	Within 300 feet of a wetland	0.5 - 1 mi	
8	Within the area overlying a subsurface mine	No	(Y/N)
	Distance between release and nearest registered mine	5mi >	
9	Within an unstable area (Karst Map)	Low	Critical High Medium Low
	Distance between release and nearest unstable area	1 - 5 mi	
10	Within a 100-year Floodplain	>500	year
	Distance between release and nearest FEMA Zone A (100-year Floodplain)	1 - 5 mi	
11	Soil Type	Gravelly fine sandy loam, indurated	
12	Ecological Classification	Shallow Sandy	
13	Geology	Eolian and piedmont deposits	
	NMAC 19.15.29.12 E (Table 1) Closure Criteria	51-100'	<50' 51-100' >100'

OSE POD 0.5 Miles



12/12/2024, 2:36:01 PM

1:18,056

GIS WATERS PODs
- Active
- Pending
- Plugged

OSE District Boundary

Water Right Regulations
- Closure Area
- Artesian Planning Area

New Mexico State Trust Lands
- Subsurface Estate
- Both Estates

0 0.17 0.35 0.7 mi

0 0.3 0.6 1.2 km

Esri, HERE, iPC, Esri, HERE, Garmin, iPC, Maxar

Online web user

This is an unofficial map from the OSE's online application.

Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.) (R=POD has been replaced, O=orphaned, C=the file is closed) (quarters are smallest to largest) (NAD83 UTM in meters) (In feet) (In feet) (In feet)

POD Number	Code	Sub basin	County	Q64	Q16	Q4	Sec	Tws	Range	X	Y	Map	Distance	Well Depth	Depth Water	Water Column
C 04632 POD1		CUB	ED	NW	NE	NE	10	25S	31E	616802.3	3557964.2		1849	55		
C 04792 POD1		CUB	ED	NW	SW	SE	12	25S	31E	619687.5	3556651.9		2214	55		
C 03830 POD1		CUB	ED	SE	NE	SE	02	25S	31E	618632.5	3558432.9		2450	450		
C 02570		CUB	ED	SE	NE	SE	02	25S	31E	618704.0	3558489.0 *		2533	895		
C 02569		CUB	ED	SE	SE	NE	02	25S	31E	618699.0	3558891.0 *		2892	1016		
C 02573		CUB	ED	NW	SE	NE	02	25S	31E	618499.0	3559091.0 *		3003			
C 04635 POD1		CUB	ED	SE	SW	SE	01	25S	31E	619957.6	3558078.3		3052	55		
C 02568		CUB	ED	SE	SW	NW	01	25S	31E	619103.0	3558892.0 *		3081	1025		
C 02571		CUB	ED	SE	NW	NE	02	25S	31E	618292.0	3559294.0 *		3138	860		
C 02572		CUB	ED	SE	NE	NE	02	25S	31E	618695.0	3559294.0 *		3262	852		
C 02574		CUB	ED	NW	NW	NE	02	25S	31E	618092.0	3559494.0 *		3291			
C 04619 POD1		CUB	ED	NE	NW	NE	27	25S	31E	616749.8	3552958.1		3383	55		
C 04593 POD1		CUB	ED	SW	SE	SE	34	24S	31E	616902.6	3559674.6		3472	55		
C 02250		CUB	ED	SW	NW	SE	21	25S	31E	614912.0	3553620.0 *		3699	400	390	10
C 04618 POD1		CUB	LE	SW	SE	SW	18	25S	32E	621040.8	3554886.9		3787	55		
C 04620 POD1		CUB	LE	SE	SW	SE	06	25S	32E	621445.0	3558018.4		4312	55		
C 04479 POD1		CUB	ED	NE	NW	NW	04	25S	31E	614182.1	3559400.0		4578	0	0	0
C 04722 POD2		CUB	LE	NE	NW	NW	06	25S	32E	620808.2	3559499.5		4627	55		
C 04500 POD1		CUB	ED	SE	SE	NW	28	25S	31E	614620.2	3552380.1		4833			
C 04633 POD1		CUB	ED	NE	NW	NW	35	24S	31E	617394.3	3561170.0		4916			

Average Depth to Water: **195 fe**

Minimum Depth: **0 feet**

Maximum Depth: **390 feet**

Record Count: 20

UTM Filters (in meters):

Easting: 617509

Water Right Summary

get image list

WR File Number:	C 04912	**Subbasin:**	CUB	**Cross Reference:**
Primary Purpose:	MON MONITORING WELL			
Primary Status:	PMT Permit			
Total Acres:		**Subfile:**		**Header:**
Total Diversion:	0.000	**Cause/Case:**		
Owner:	DEVON ENERGY PRODUCTION COMPANY, LP			

Documents on File

(acre-feet per annum)

Transaction Images	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/To	Acres	Diversion	Consumptive
get images	771667	EXPL	2024-11-20	PMT	APR	C 04912 POD1	T	0.000	0.000	

Current Points of Diversion

POD Number	Well Tag	Source	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Map	Other Location Desc
C 04912 POD1	NA		NE	NW	NW	14	25S	31E	617587.0	3556319.4		

*** UTM location was derived from PLSS - see Help**

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

12/12/24 11:32 AM MST **Water Rights Summary**

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PROJECT #23E-04453

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.): C-4912-POD1	WELL TAG ID NO.	OSE FILE NO(S): C-4912-POD1
WELL OWNER NAME(S): Devon Energy Resources		PHONE (OPTIONAL)
WELL OWNER MAILING ADDRESS: 205 E. Bender Road #150		CITY: Hobbs STATE: NM ZIP: 88240

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	8	13.8	N
	LONGITUDE	-103	45	11.8	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND

* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
1833	Jason Maley	Vision Resources

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
12-3-24	12-3-24	55'	55'	N/A

COMPLETED WELL IS: ☐ ARTESIAN *add Centralizer info below ☑ DRY HOLE ☐ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): 0'

DATE STATIC MEASURED: 12-3-24

DRILLING FLUID: ☑ AIR ☐ MUD ADDITIVES – SPECIFY:

DRILLING METHOD: ☑ ROTARY ☐ HAMMER ☐ CABLE TOOL ☐ OTHER – SPECIFY:

CHECK HERE IF PITLESS ADAPTER IS INSTALLED ☐

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	45	6"	PVC 2" SCH40	Thread	2"	SCH40	N/A
45	55	6"	PVC 2" SCH40	Thread	2"	SCH40	.02

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL *(if using Centralizers for Artesian wells- indicate the spacing below)	AMOUNT (cubic feet)	METHOD OF PLACEMENT
			None pulled and plugged		

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 09/22/2022)

FILE NO.	POD NO.	TRN NO.
LOCATION	WELL TAG ID NO.	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES **(attach supplemental sheets to fully describe all units)**	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	10	10'	Brown sand with caliche	Y ✓ N	
10	30	20'	Tan fine sand with small rock	Y ✓ N	
30	55	25'	Tan fine sand	Y ✓ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☐ PUMP ☐ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY: Dry hole

TOTAL ESTIMATED WELL YIELD (gpm): 0

5. TEST; RIG SUPERVISION

WELL TEST — TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION:

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

Jason Maley

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:

JMaley — Jason Maley — 12/11/24

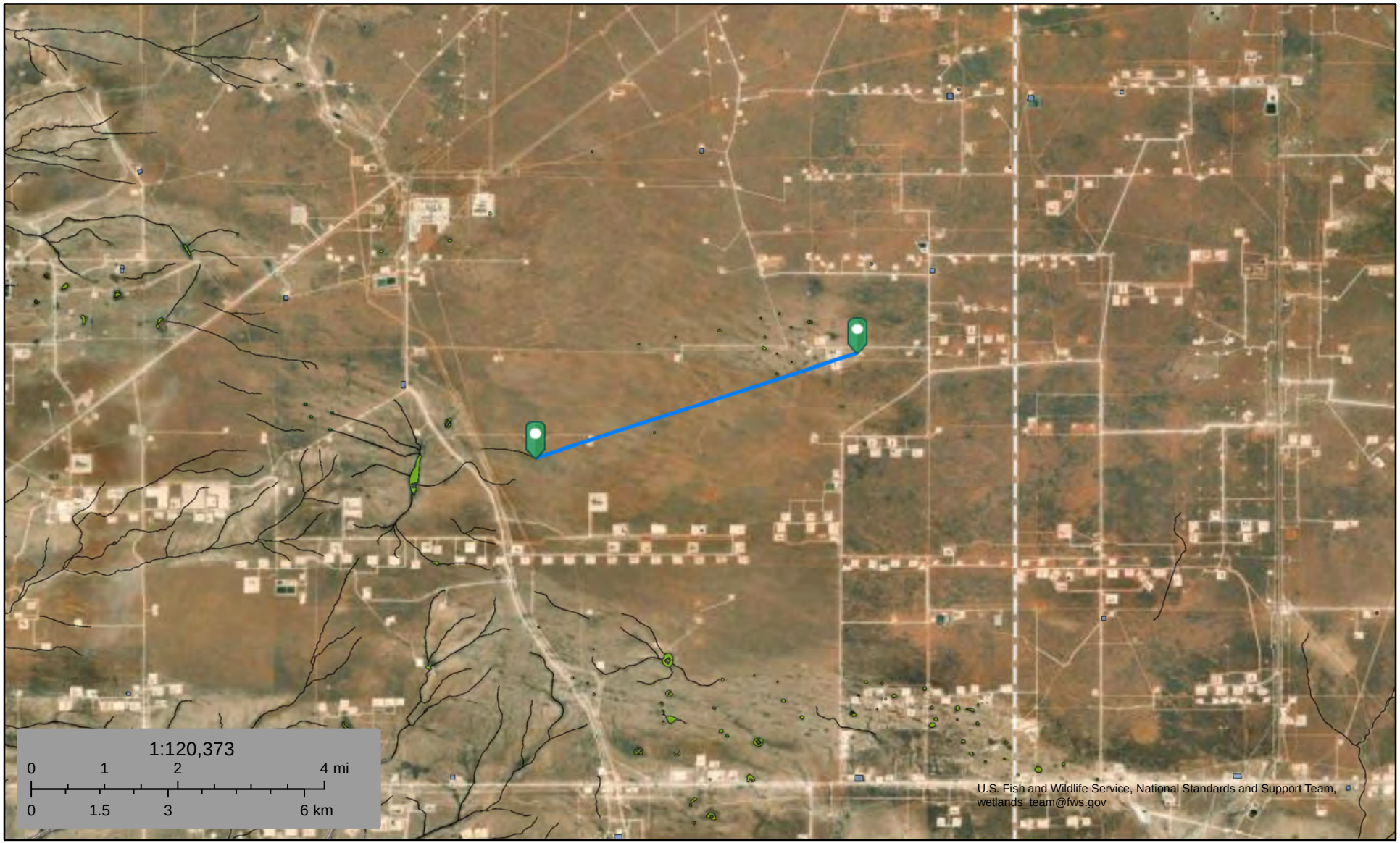
SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 09/22/2022)

FILE NO.	POD NO.	TRN NO.
LOCATION	WELL TAG ID NO.	PAGE 2 OF 2

U.S. Fish and Wildlife Service
National Wetlands Inventory

Intermittent 20,655 feet



December 12, 2024

Wetlands

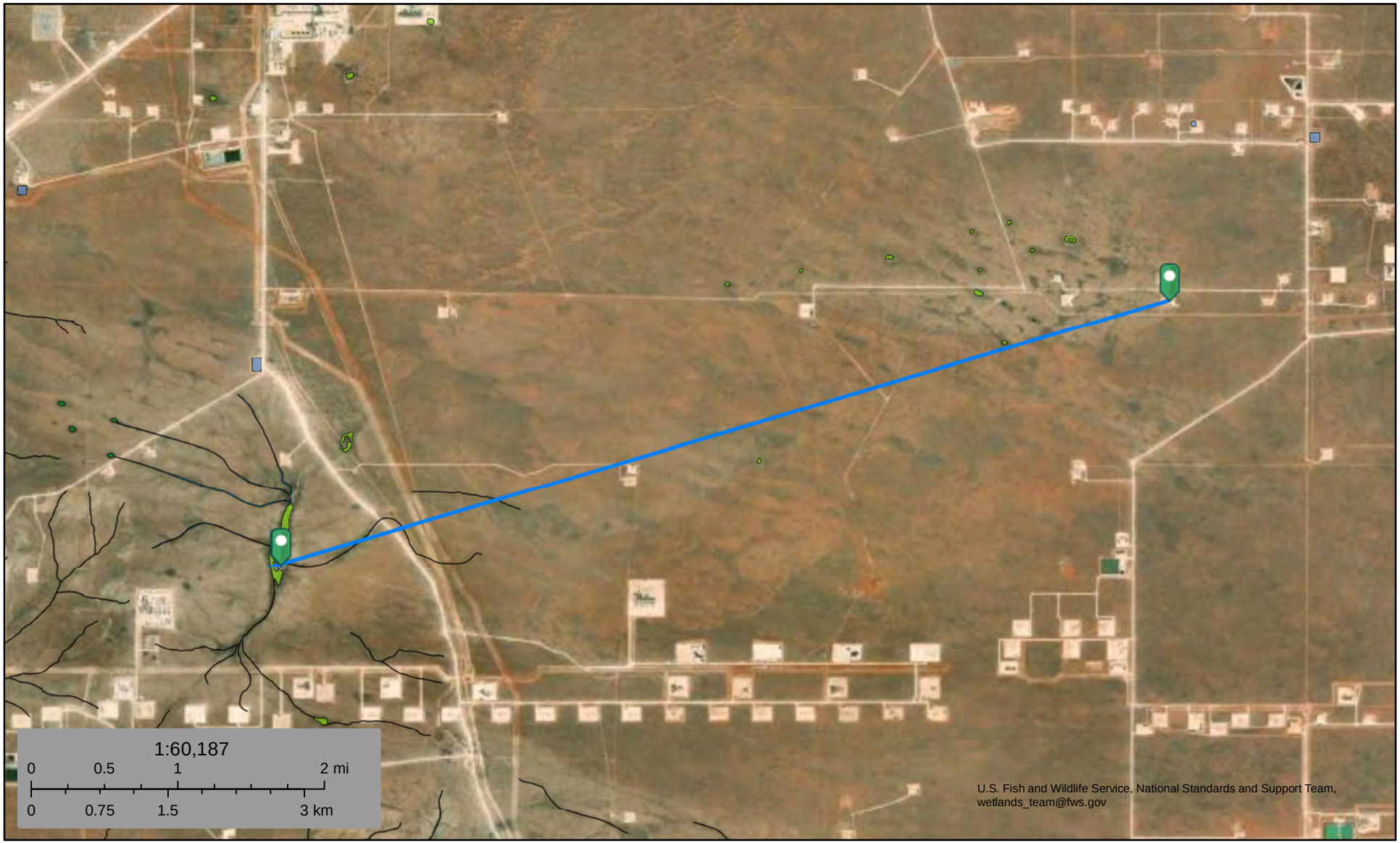
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

U.S. Fish and Wildlife Service
National Wetlands Inventory

03 - Natural Pond - 28,348 feet away (5.37 mi)
Cotton Draw 14 Fed Com #001H



July 20, 2023

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

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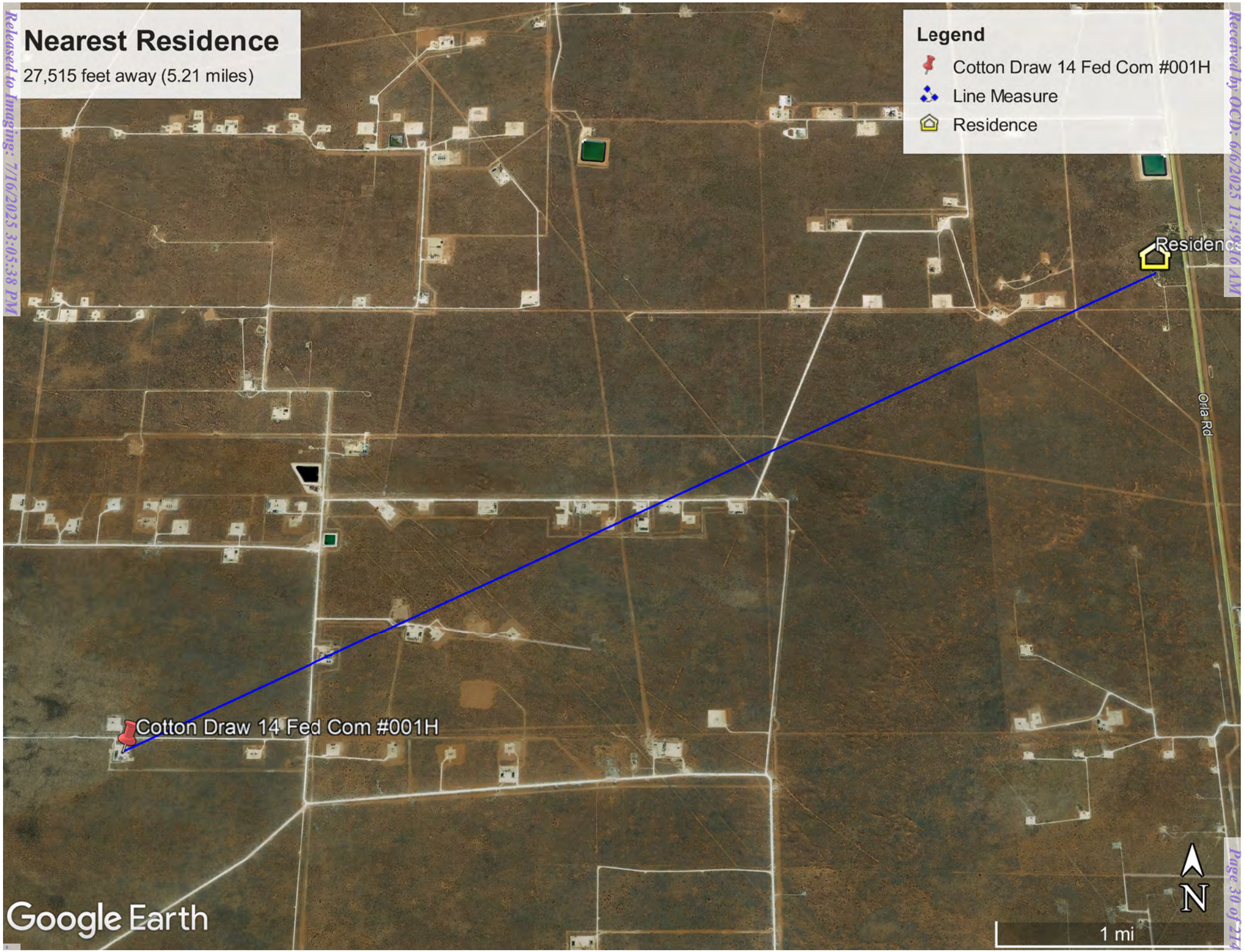

Active & Inactive Points of Diversion

(with Ownership Information)

(acre ft per annum) | (R=POD has been replaced and no longer serves this file, C=the file is closed) | (quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) | (NAD83 UTM in meters) | (meters)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Well Tag	Code	Grant	Source	q64	q16	q4	Sec	Tws	Range	X	Y	Map	Distance
C 04894	CUB	MON	0.000	DEVON ENERGY PRODUCTION CO LP	ED	C 04894 POD1	NA				NE	NW	NW	14	25S	31E	617587.0	3556319.4		101.2
C 04912	CUB	MON	0.000	DEVON ENERGY PRODUCTION COMPANY, LP	ED	C 04912 POD1	NA				NE	NW	NW	14	25S	31E	617587.0	3556319.4		101.2
C 04632	CUB	EXP	0.000	DEVON ENERGY	ED	C 04632 POD1	NA				NW	NE	NE	10	25S	31E	616802.3	3557964.2		1,849.5
C 02245	C	STK	3.000	TWIN WELLS RANCH LLC	ED	C 02245						NW	NW	12	25S	31E	619018.0	3557785.0 *		2,148.9
C 04792	CUB	MON	0.000	DEVON ENERGY RESOURCES	ED	C 04792 POD1	NA				NW	SW	SE	12	25S	31E	619687.5	3556651.9		2,214.4
C 03830	CUB	EXP	0.000	ROCKHOUSE RANCH INC	ED	C 03830 POD1				Shallow	SE	NE	SE	02	25S	31E	618632.5	3558432.9		2,450.6
C 02570	CUB	COM	3.000	OXY USA INC	ED	C 02570					SE	NE	SE	02	25S	31E	618704.0	3558489.0 *		2,533.5
C 02569	CUB	COM	12.000	OXY USA INC	ED	C 02569				Shallow	SE	SE	NE	02	25S	31E	618699.0	3558891.0 *		2,892.2
C 02573	CUB	COM	3.000	OXY USA INC	ED	C 02573					NW	SE	NE	02	25S	31E	618499.0	3559091.0 *		3,003.8
C 04635	CUB	EXP	0.000	DEVON ENERGY	ED	C 04635 POD1	NA				SE	SW	SE	01	25S	31E	619957.6	3558078.3		3,052.9
C 02568	CUB	COM	3.000	OXY USA INC	ED	C 02568					SE	SW	NW	01	25S	31E	619103.0	3558892.0 *		3,081.3
C 02571	CUB	COM	3.000	OXY USA INC	ED	C 02571				Shallow	SE	NW	NE	02	25S	31E	618292.0	3559294.0 *		3,138.2
C 02572	CUB	COM	3.000	OXY USA INC	ED	C 02572					SE	NE	NE	02	25S	31E	618695.0	3559294.0 *		3,262.2
C 02574	CUB	COM	12.000	OXY USA INC	ED	C 02574				Shallow	NW	NW	NE	02	25S	31E	618092.0	3559494.0 *		3,291.0
C 04762	CUB	MON	0.000	XTO ENERGY INC.	ED	C 04762 POD1	NA				NE	SW	NW	03	25S	31E	615852.8	3559163.3		3,346.8
C 04619	CUB	MON	0.000	DEVON ENERGY	ED	C 04619 POD1	NA				NE	NW	NE	27	25S	31E	616749.8	3552958.1		3,383.2
C 04593	CUB	MON	0.000	DEVON ENERGY	ED	C 04593 POD1	NA				SW	SE	SE	34	24S	31E	616902.6	3559674.6		3,473.0
C 02250	CUB	STK	3.000	BUCK JACKSON TRUST	ED	C 02250					SW	NW	SE	21	25S	31E	614912.0	3553620.0 *		3,699.7
C 04618	CUB	MON	0.000	DEVON ENERGY	LE	C 04618 POD1	NA				SW	SE	SW	18	25S	32E	621040.8	3554886.9		3,787.5
C 01914	C	PRO	0.000	PERRY R BASS	ED	C 01914					SE	NW	NE	04	25S	31E	615064.0	3559275.0 *		3,885.7
C 01839	C	PRO	0.000	OXY PETROLEUM INC	ED	C 01839						SW	NE	08	25S	31E	613364.0	3557344.0 *		4,285.7
C 04620	CUB	MON	0.000	DEVON ENERGY	LE	C 04620 POD1	NA				SE	SW	SE	06	25S	32E	621445.0	3558018.4		4,313.0
C 01831	C	PRO	0.000	OXY PETROLEUM INC	ED	C 01831						NE	NW	17	25S	31E	612972.0	3556126.0 *		4,538.8
C 04479	CUB	MON	0.000	XTO ENERGY INC	ED	C 04479 POD1	NA				NE	NW	NW	04	25S	31E	614182.1	3559400.0		4,578.1
C 04722	CUB	MON	0.000	DEVON ENERGY RESOURCES	LE	C 04722 POD2	NA				NE	NW	NW	06	25S	32E	620808.2	3559499.5		4,627.3
C 04500	CUB	MON	0.000	XTO ENERGY INC	ED	C 04500 POD1	NA				SE	SE	NW	28	25S	31E	614620.2	3552380.1		4,833.2
C 04633	CUB	EXP	0.000	DEVON ENERGY	ED	C 04633 POD1	NA				NE	NW	NW	35	24S	31E	617394.3	3561170.0		4,916.3

Record Count: 27

Filters Applied:

UTM Filters (in meters):
Easting: 617509
Northing: 3556255
Radius: 005000

Sorted By: Distance

*** UTM location was derived from PLSS - see Help**

Water Right Summary

get image list

WR File Number:	C 02245	**Subbasin:**	C	**Cross Reference:**
Primary Purpose:	STK 72-12-1 LIVESTOCK WATERING			
Primary Status:	PMT Permit			
Total Acres:		**Subfile:**		**Header:**
Total Diversion:	3.000	**Cause/Case:**		
Owner:	TWIN WELLS RANCH LLC			
Contact:	STEVEN MCCUTCHEON			

Documents on File

(acre-feet per annum)

Transaction Images	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/To	Acres	Diversion	Consumptive
get images	722418	COWNF	2022-03-28	CHG	PRC	C 02245	T		0.000	
get images	469232	72121	1992-01-28	PMT	APR	C 02245	T		3.000	

Current Points of Diversion

POD Number	Well Tag	Source	Q64	Q16	Q4	Sec	Tws	Rng	X	Y	Map	Other Location Desc
C 02245				NW	NW	12	25S	31E	619018.0	3557785.0 *		

*** UTM location was derived from PLSS - see Help**

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

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U.S. Fish and Wildlife Service
National Wetlands Inventory

07 - Wetland - 3,555 feet away (0.67 miles)
Cotton Draw 14 Fed Com #001H

July 20, 2023

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

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National Wetlands Inventory (NWI)
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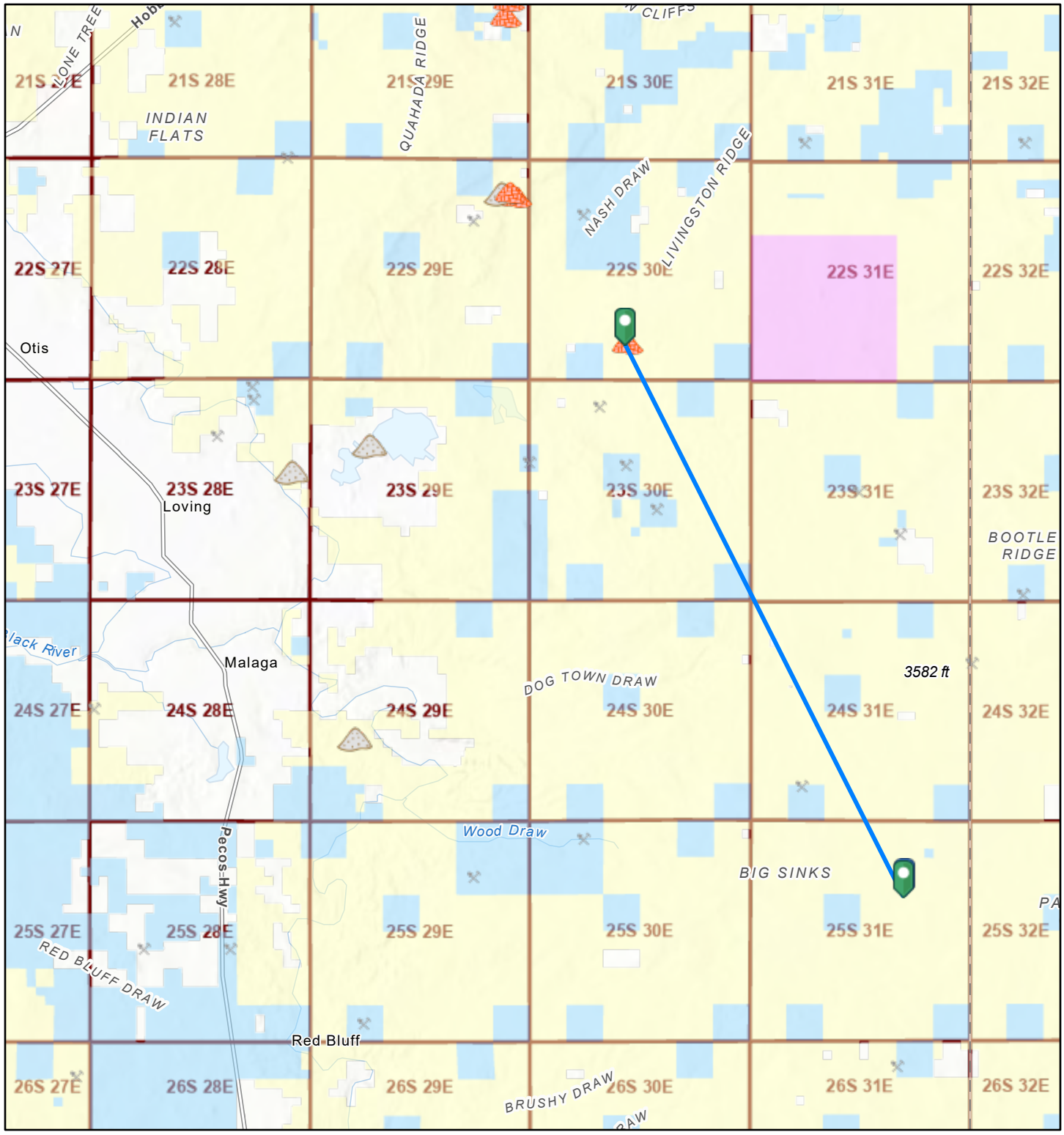
Cotton Draw 14 Fed Com 1H Mine 89,285 ft.



12/14/2023, 7:41:13 AM

1:288,895

0 2 4 8 mi

0 3.25 6.5 13 km

Registered Mines

- Aggregate, Stone etc.
- Aggregate, Stone etc.
- Aggregate, Stone etc.
- Potash
- Salt

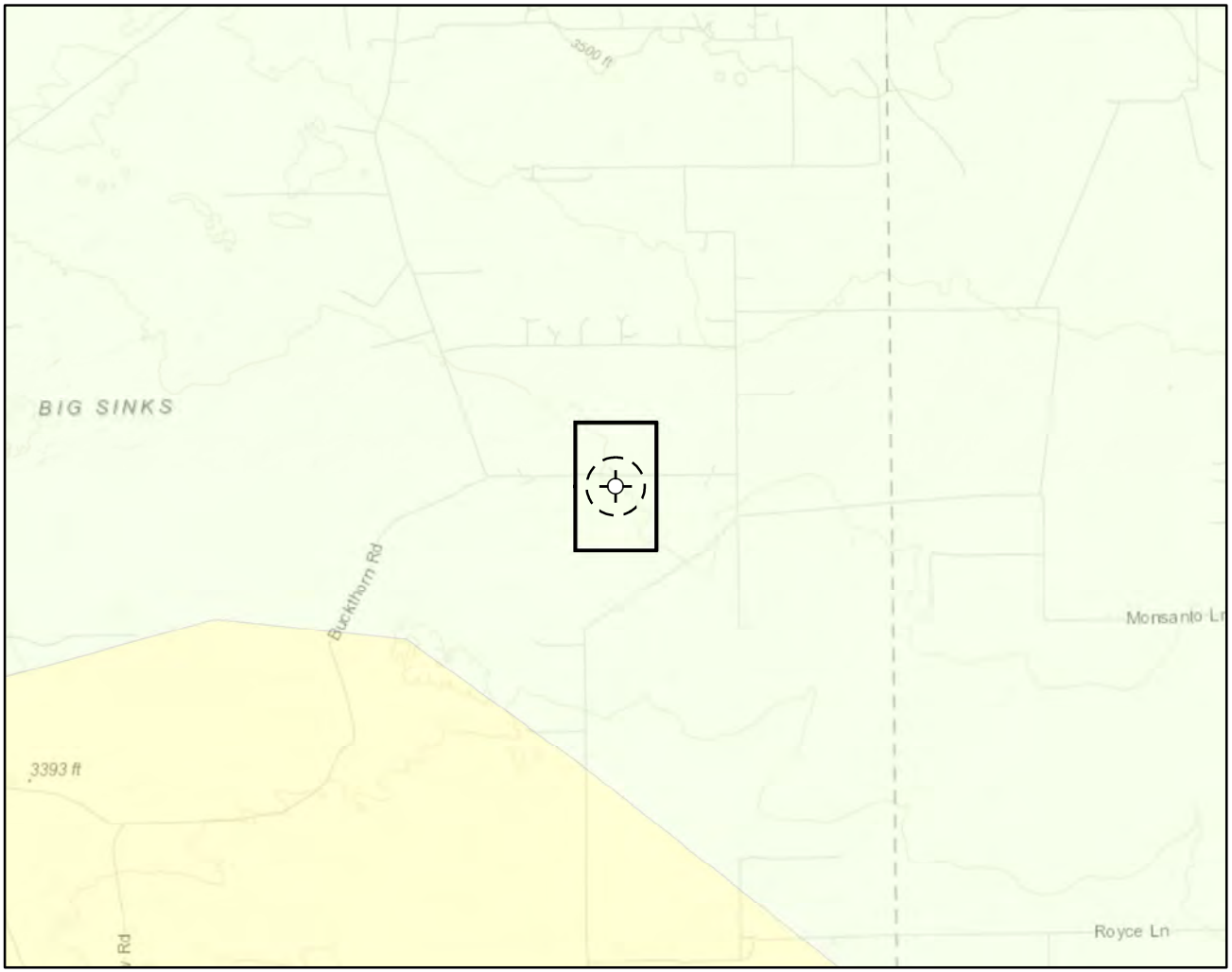
Land Ownership

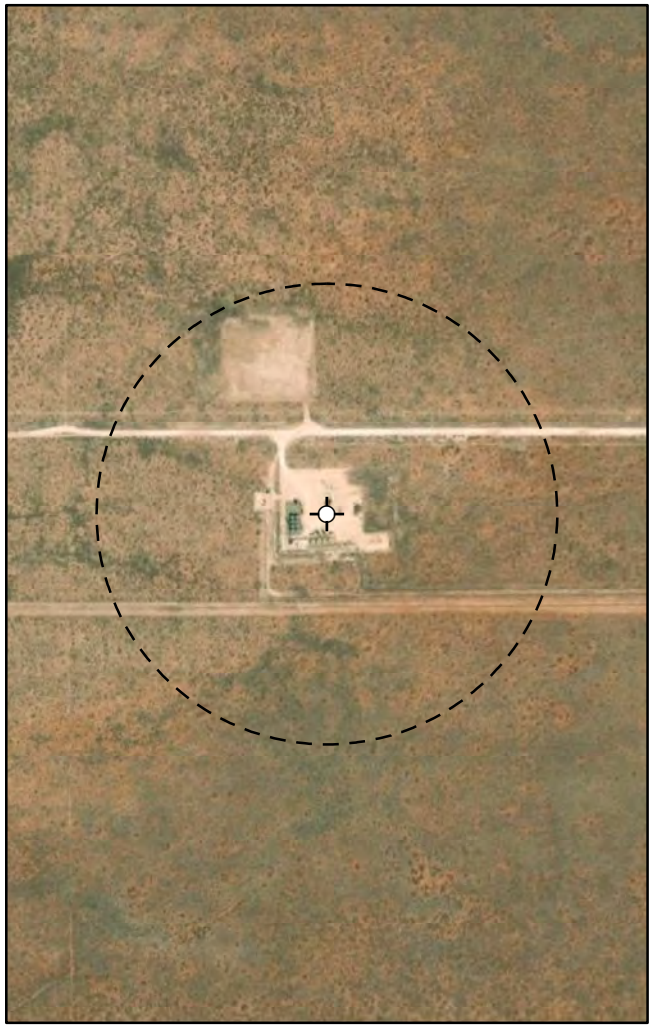
- BLM
- DOE
- P
- S
- PLSS Townships

U.S. BLM, Esri, NASA, NGA, USGS, New Mexico State University, Texas Parks & Wildlife, CONANP, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA, BLM

EMNRD MMD GIS Coordinator

New Mexico Energy, Minerals and Natural Resources Department (http://nm-emnrd.maps.arcgis.com/apps/webappviewer/index.html?id=1b5e577974664d689b47790897ca2795)





Karst Potential

- Critical
- High
- Medium
- Low

Site Location

Site Buffer (1,000 ft.)

Overview Map

0 0.25 0.5 1 mi

Detail Map

0 150 300 600 ft.

VERTEX

Map Center:
Lat/Long: 32.136723, -103.753525

NAD 1983 UTM Zone 13N

Date: Jul 21/23

N

Karst Potential Map
Cotton Draw 14 Fed Com #001H

Plate: 9

devon

Geospatial data presented in this figure may be derived from external sources and Vertex does not assume any liability for inaccuracies. This figure is intended for reference use only and is not certified for legal, survey, or engineering purposes.

Note: Inset Map, ESRI 2022; Overview Map: ESRI World Topographic. Karst potential data sourced from Rosswell Field Office, Bureau of Land Management, 2020 or United States Department of the Interior, Bureau of Land Management. (2018). Karst Potential.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Devon Energy Corporation\2023\23E-04453 - Cotton Draw 14 Fed Com #001H\Figure X Karst Potential Map (23E-04453).mxd

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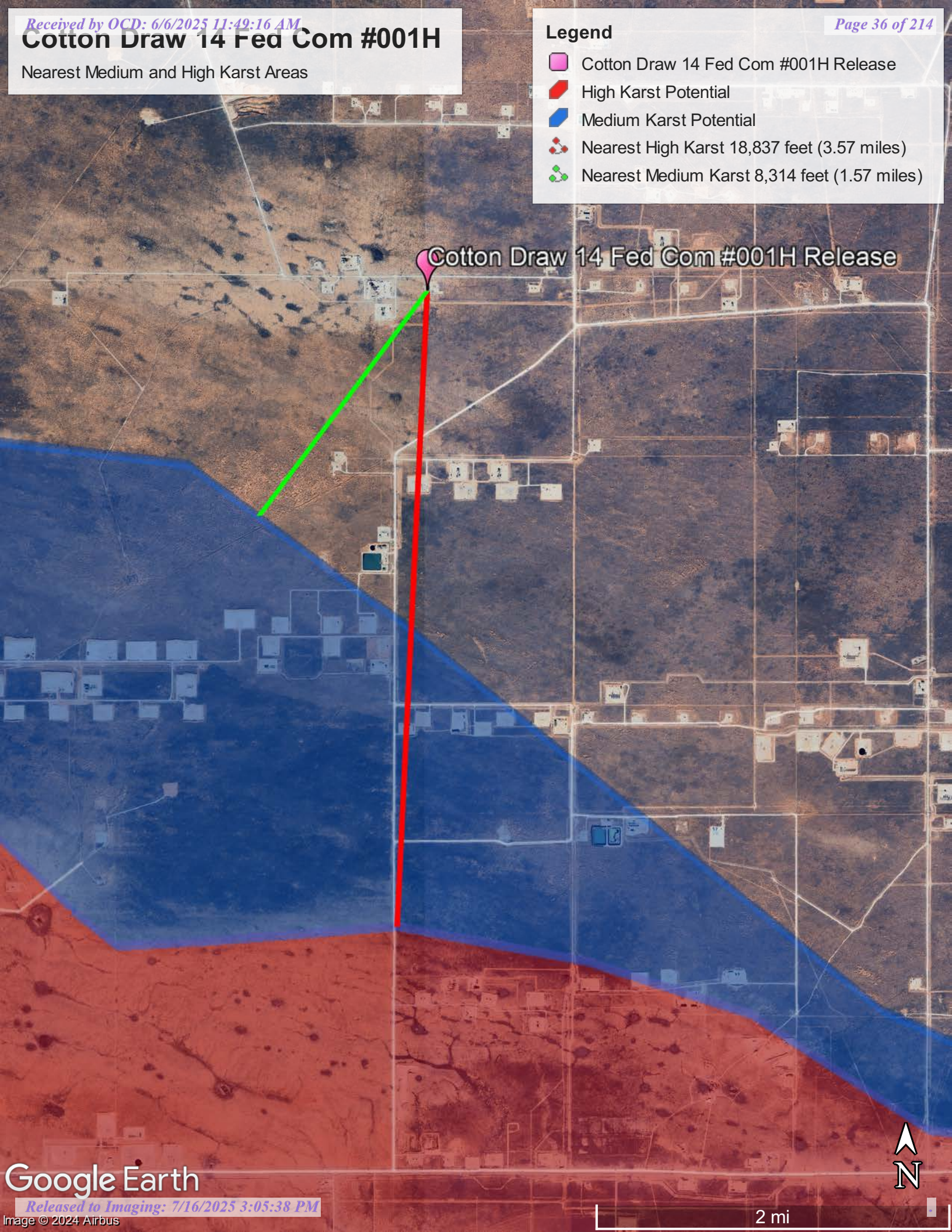
Cotton Draw 14 Fed Com #001H

Nearest Medium and High Karst Areas

Legend

- Cotton Draw 14 Fed Com #001H Release
- High Karst Potential
- Medium Karst Potential
- Nearest High Karst 18,837 feet (3.57 miles)
- Nearest Medium Karst 8,314 feet (1.57 miles)



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National Flood Hazard Layer FIRMette

FEMA

103°45'33"W 32°8'27"N

103°44'56"W 32°7'57"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 5/27/2025 at 2:20 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

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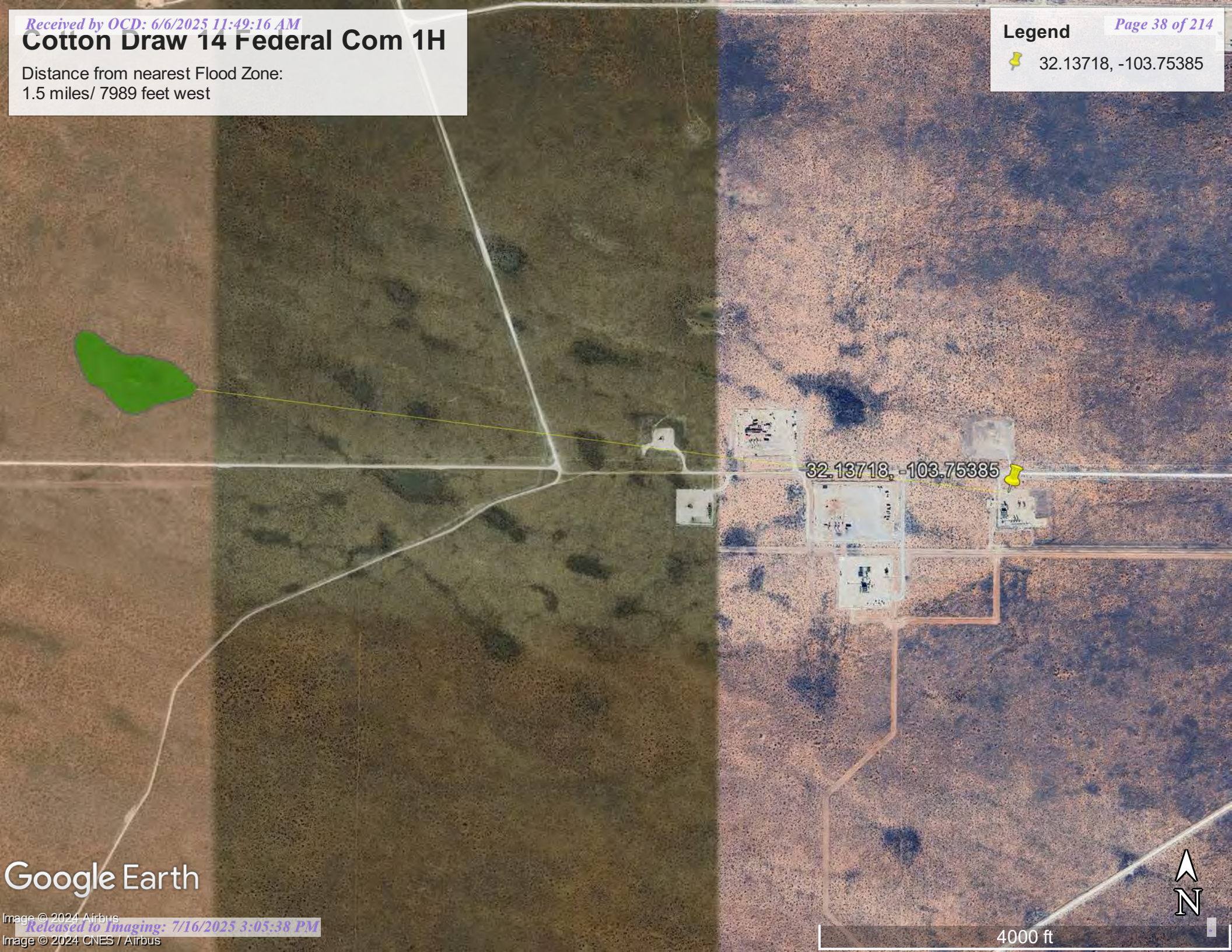
Cotton Draw 14 Federal Com 1H

Distance from nearest Flood Zone:
1.5 miles/ 7989 feet west

Legend

32.13718, -103.75385



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United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Eddy Area, New Mexico

January 2, 2024

Custom Soil Resource Report
Soil Map (Cotton Draw 14 Fed Com #001H)

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Eddy Area, New Mexico
Survey Area Data: Version 19, Sep 7, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 7, 2020—May 12, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend (Cotton Draw 14 Fed Com #001H)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
SM	Simona-Bippus complex, 0 to 5 percent slopes	1.6	38.3%
TF	Tonuco loamy fine sand, 0 to 3 percent slopes	2.6	61.7%
Totals for Area of Interest		**4.3**	**100.0%**

Map Unit Descriptions (Cotton Draw 14 Fed Com #001H)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate

pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Eddy Area, New Mexico

SM—Simona-Bippus complex, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 1w5x
Elevation: 1,800 to 5,000 feet
Mean annual precipitation: 8 to 24 inches
Mean annual air temperature: 57 to 70 degrees F
Frost-free period: 180 to 230 days
Farmland classification: Not prime farmland

Map Unit Composition

Simona and similar soils: 55 percent
Bippus and similar soils: 30 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Simona

Setting

Landform: Plains, alluvial fans
Landform position (three-dimensional): Rise
Down-slope shape: Convex, linear
Across-slope shape: Linear
Parent material: Mixed alluvium and/or eolian sands

Typical profile

H1 - 0 to 19 inches: gravelly fine sandy loam
H2 - 19 to 23 inches: indurated

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 7 to 20 inches to petrocalcic
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Very low (about 2.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: R070BD002NM - Shallow Sandy
Hydric soil rating: No

Description of Bippus

Setting

Landform: Flood plains, alluvial fans
Landform position (three-dimensional): Talf, rise
Down-slope shape: Convex, linear
Across-slope shape: Linear
Parent material: Mixed alluvium

Typical profile

H1 - 0 to 37 inches: silty clay loam
H2 - 37 to 60 inches: clay loam

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: R070BC017NM - Bottomland
Hydric soil rating: No

Minor Components

Simona

Percent of map unit: 8 percent
Ecological site: R070BD002NM - Shallow Sandy
Hydric soil rating: No

Bippus

Percent of map unit: 7 percent
Ecological site: R070BC017NM - Bottomland
Hydric soil rating: No

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TF—Tonuco loamy fine sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 1w61
Elevation: 3,000 to 4,100 feet
Mean annual precipitation: 10 to 14 inches
Mean annual air temperature: 60 to 64 degrees F
Frost-free period: 200 to 217 days
Farmland classification: Not prime farmland

Map Unit Composition

Tonuco and similar soils: 98 percent
Minor components: 2 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tonuco

Setting

Landform: Plains, alluvial fans
Landform position (three-dimensional): Rise
Down-slope shape: Convex, linear
Across-slope shape: Linear
Parent material: Mixed alluvium and/or eolian sands

Typical profile

H1 - 0 to 5 inches: loamy fine sand
H2 - 5 to 15 inches: loamy fine sand
H3 - 15 to 19 inches: indurated

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 6 to 20 inches to petrocalcic
Drainage class: Excessively drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Very low (about 1.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: R070BD004NM - Sandy
Hydric soil rating: No

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Minor Components

Dune land

Percent of map unit: 1 percent
Hydric soil rating: No

Tonuco

Percent of map unit: 1 percent
Ecological site: R070BD004NM - Sandy
Hydric soil rating: No

USDA Natural Resources Conservation Service

Ecological site R070BD002NM
Shallow Sandy

Accessed: 05/27/2025

General information

Provisional. A provisional ecological site description has undergone quality control and quality assurance review. It contains a working state and transition model and enough information to identify the ecological site.

Figure 1. Mapped extent

Areas shown in blue indicate the maximum mapped extent of this ecological site. Other ecological sites likely occur within the highlighted areas. It is also possible for this ecological site to occur outside of highlighted areas if detailed soil survey has not been completed or recently updated.

Associated sites

R070BD004NM	**Sandy** Sandy sites often occur in association or in a complex with Shallow Sandy Sites.

Similar sites

R070BD004NM	**Sandy** Sandy ecological sites are similar to Shallow Sandy sites in species composition and Transition pathways.

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

Physiographic features

This site occures on plains, alluvial fans, uplands, or fan piedmonts. The parent material consists of mixed loamy alluvium or eolian material derived from igneous and sedimentory bedrock. The petrocalcic layer is at a depth of 10 to 25 inches and undulating.

Slopes are nearly level to undulating, usually less than 9 percent. Elevations range from 2,842 to 4,500 feet.

Table 2. Representative physiographic features

Landforms	(1) Plain (2) Fan piedmont (3) Alluvial fan
Elevation	2,842–4,500 ft
Slope	1–9%
Aspect	Aspect is not a significant factor

Climatic features

The average annual precipitation ranges from 8 to 13 inches. Variations of 5 inches, more or less, are common. Over 80 percent of the precipitation falls from April through October. Most of the summer precipitation comes in the form of high intensity – short duration thunderstorms.
Temperatures are characterized by distinct seasonal changes and large annual and diurnal temperature changes. The average annual temperature is 61 degrees with extremes of 25 degrees below zero in the winter to 112 degrees in the summer.
The average frost-free season is from 207 to 220 days. The last killing frost is in late March or early April, and the first killing frost is in late October or early November.
Temperature and rainfall both favor warm season perennial plant growth. In years of abundant spring moisture, annual forbs and cool season grasses can make up an important component of the site. The vegetation of this site can take advantage of the moisture and the time it falls. Because of the soil profile, little moisture can be stored in the soil for any length of time. Moisture is readily available to the plants from the time it falls. Strong winds from the southwest blow from January through June which rapidly dries out the soil profile during a critical period for plant growth.

Climate data was obtained from http://www.wrcc.sage.dri.edu/summary/climsmnm.html web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F respectively.

Table 3. Representative climatic features

Frost-free period (average)	221 days
Freeze-free period (average)	240 days
Precipitation total (average)	13 in

Influencing water features

This site is not influenced from water from wetlands or streams.

Soil features

Soils are very shallow to shallow, less than 20 inches in depth. Surface and subsurface textures are gravelly loamy sand, gravelly fine sandy loam or fine sandy loam.

An indurated calache layer occurs at depths of 6 to 25 inches and is at an average of 15 inches from the surface. Underlying material textures are very gravelly fine sandy loam, very gravelly sandy loam, gravelly fine sandy loam. Gravels are calcium carbonate concretions, calcium carbonate content ranges from 30 to 65 percent.

The indurated caliche layer typically holds water up in the profile for short periods within the root zone of plants. These soils will blow if left unprotected by vegetation.

Minimum and maximum values listed below represent the characteristic soils for this site.

Characteristic soils are:
Simona
Jerag

Table 4. Representative soil features

Surface texture	(1) Fine sandy loam (2) Loamy fine sand (3) Gravelly fine sandy loam
Family particle size	(1) Loamy
Drainage class	Well drained to moderately well drained
Permeability class	Moderately slow to moderate
Soil depth	7–24 in
Surface fragment cover <=3"	5–25%
Surface fragment cover >3"	0%
Available water capacity (0-40in)	1–2 in
Calcium carbonate equivalent (0-40in)	5–15%
Electrical conductivity (0-40in)	0–4 mmhos/cm

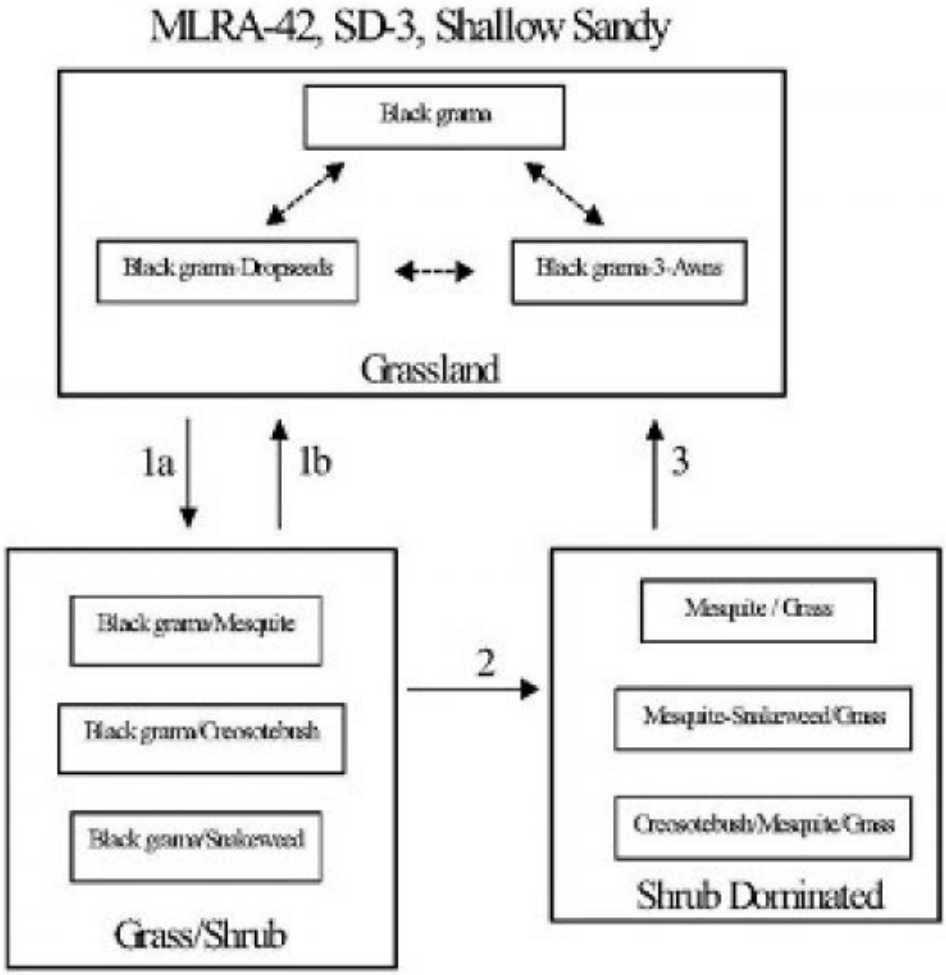
Sodium adsorption ratio (0-40in)	0
Soil reaction (1:1 water) (0-40in)	7.4–8
Subsurface fragment volume <=3" (Depth not specified)	5–25%
Subsurface fragment volume >3" (Depth not specified)	0%

Ecological dynamics

Overview
The Shallow Sandy site occurs on upland plains, and tops of low ridges and mesas, associated with Sandy, Loamy Sand, and Shallow sites. Coarse to moderately coarse soil surface textures, shallow depth (<20 inches) to an indurated caliche layer (petrocalcic horizon), and an overwhelming dominance by black grama help to distinguish this site.
The historic plant community of the Shallow Sandy site is a black grama dominated grassland sparsely dotted with shrubs. Shrubs, especially mesquite and creosotebush can increase or colonize due to the dispersal of shrub seeds by livestock or wildlife. This increase in mesquite and colonization of creosotebush may be enhanced by proximity to areas with existing high shrub densities. Fire suppression, and the loss of grass cover due to overgrazing or drought may facilitate the increase and encroachment of shrubs. Persistent loss of grass cover, competition for resources by shrubs, and periods of climate with increased winter precipitation and dry summers, may initiate the transition to a shrub-dominated state.

State and transition model

Plant Communities and Transitional Pathways (diagram)



1a. Seed dispersal, drought, overgrazing, fire suppression.
1b. Prescribed fire, brush control, prescribed grazing.

2. Persistent loss of grass cover, resource competition, increased winter precipitation.

3. Brush control, range seeding, prescribed grazing.

State 1
Historic Climax Plant Community

Community 1.1
Historic Climax Plant Community

Grassland: This site responds well to management and is resistant to state change, due to the shallow depth to petrocalcic horizon and sandy surface textures. The sandy surface textures allow rapid water infiltration and the petrocalcic horizon helps to keep water

perched and available to shallow rooted grasses. Black grama is the dominant species in the historic plant community, averaging 50 to 60 percent of the total production for this site. Bush muhly, blue grama, and dropseeds are present as sub-dominants. Typically, yucca, javalinabush, range ratany, prickly pear, and mesquite are sparsely dotted across the landscape. Leatherweed croton, cutleaf happlopappus, wooly groundsel, and threadleaf groundsel are common forbs. Continuous heavy grazing or extended periods of drought will cause a loss of grass cover characterized by a decrease in black grama, bush muhly, blue and sideoats grama, plains bristlegrass, and Arizona cottontop. Dropseeds and or threeawns may increase and become sub-dominant to black grama. Continued loss of grass cover in conjunction with dispersal of shrub seeds and fire suppression is believed to cause the transition to a state with increased amounts of shrubs (Grass/Shrub state). Diagnosis: Black grama is the dominant grass species. Grass cover uniformly distributed. Shrubs are a minor component averaging only two to five percent canopy cover. Litter cover is high (40-50 percent of area), and litter movement is limited to smaller size class litter and short distances (<. 5m). Other grasses that could appear on this site would include: six-weeks grama, fluffgrass, false-buffalograss, hairy grama, little bluestem, bristle panicum, cane bluestem, Indian ricegrass, tridens spp., and red lovegrass. Other woody plants include: pricklypear, cholla, fourwing saltbush, catclaw mimosa, winterfat, American tarbush and mesquite. Other forbs include: globemallow, verbena, desert holly, senna, plains blackfoot, trailing fleabane, fiddleneck, deerstongue, wooly Indianwheat, and locoweed.

Table 5. Annual production by plant type

Plant Type	Low (Lb/Acre)	Representative Value (Lb/Acre)	High (Lb/Acre)
Grass/Grasslike	474	652	830
Forb	78	107	136
Shrub/Vine	48	66	84
Total	**600**	**825**	**1050**

Table 6. Ground cover

Tree foliar cover	0%
Shrub/vine/liana foliar cover	0%
Grass/grasslike foliar cover	30-35%
Forb foliar cover	0%
Non-vascular plants	0%
Biological crusts	0%
Litter	40-50%
Surface fragments >0.25" and <=3"	0%
Surface fragments >3"	0%

Bedrock	0%
Water	0%
Bare ground	15-25%

Figure 5. Plant community growth curve (percent production by month). NM2802, R042XC002NM-Shallow Sandy-HCPC. SD-3 Shallow Sandy - Warm season plant community.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	3	5	10	10	25	30	12	5	0	0

State 2
Grass/Shrub

Community 2.1
Grass/Shrub

Grass/Shrub: This state is characterized by the notable presence of shrubs, especially mesquite, broom snakeweed, and/or creosotebush, however grasses remain as the dominant species. Black grama is the dominant grass species. Threeawns and or dropseeds are sub-dominant. The susceptibility of the Shallow Sandy site to shrub encroachment may be higher when located adjacent to other sites with high densities of mesquite or creosotebush. Retrogression within this site is characterized by decreases in grass cover and increasing densities of shrubs. Diagnosis: Black grama remains as the dominant grass species. Grass cover varies in response to the amount of shrub increase, ranging from uniform to patchy. Shrubs are found at increased densities relative to the grassland state, especially mesquite, creosotebush, or broom snakeweed. Transition to Grass/Shrub (1a) Historically fire may have kept mesquite and other shrubs in check by completely killing some species and disrupting seed production cycles and suppressing the establishment of shrub seedlings in others. Fire suppression combined with seed dispersal by livestock and wildlife is believed to be the factors responsible for the establishment and increase in shrubs.1, 3 Loss of grass cover due to overgrazing, prolonged periods of drought, or their combination, reduces fire fuel loads and increases the susceptibility of the site to shrub establishment. Key indicators of approach to transition: Increase in the relative abundance of dropseeds and threeawns Presence of shrub seedlings Loss of organic matter—evidenced by an increase in physical soil crusts 8 Transition back to Grassland (1b) Brush control is necessary to initiate the transition back to the grassland state. If adequate fuel loads remain, possibly the reintroduction of fire as a management tool will assist in the transition back, however, mixed results have been observed concerning the effects of fire on black grama grasslands.6 Prescribed grazing will help ensure adequate rest following brush control and will assist in the establishment and maintenance of grass cover capable of sustaining fire.

State 3
Shrub Dominated

Community 3.1
Shrub Dominated

Shrub-Dominated: Across the range of soil types included in the Shallow Sandy site, mesquite is typically the dominant shrub, but it does occur as a co-dominant or sub-dominant species with creosotebush or broom snakeweed. Mesquite tends to dominate when the Shallow Sandy site occurs as part of a complex or in association with Sandy or Loamy Sand sites. Creosotebush tends to dominate on Shallow Sandy sites that occur as part of, or adjacent to Shallow Sites. Broom snakeweed increases in response to heavy grazing, but tends to cycle in and out depending on timing of rainfall. However, once the site is dominated by shrubs and snakeweed becomes well established, it tends to remain as a major component in the shrub dominated state. Diagnosis: Mesquite, creosotebush, or snakeweed cover is high, exceeding that of grasses. Grass cover is patchy with large connected bare areas present. Black grama, threeawns, or dropseeds may be the dominant grass. Evidence of accelerated wind erosion in the form of pedestalling of plants, and soil deposition around shrub bases may be common. Transition to Shrub-Dominated (2) Persistent loss of grass cover and the resulting increased competition between shrubs and remaining grasses for dwindling resources (especially soil moisture) may drive this transition.5 Additionally periods of increased winter precipitation may facilitate periodic episodes of shrub expansion and establishment. 4 Key indicators of approach to transition: Increase in size and frequency of bare patches. Loss of grass cover in shrub interspaces. Increased signs of erosion, evidenced by pedestalling of plants, and soil and litter deposition on leeward side of plants. 7 Transition back to Grassland (3) Brush control is necessary to reduce competition from shrubs and reestablish grasses. Range seeding may be necessary if insufficient grasses remain, The benefits, and costs, will vary depending upon the degree of site degradation, and adequate precipitation following seeding.

Additional community tables

Table 7. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production (Lb/Acre)	Foliar Cover (%)
Grass/Grasslike					
1	**Warm Season**			413–495	
	black grama	BOER4	*Bouteloua eriopoda*	413–495	–
2	**Warm Season**			41–83	
	bush muhly	MUPO2	*Muhlenbergia porteri*	41–83	–
3	**Warm Season**			41–83	

	blue grama	BOGR2	*Bouteloua gracilis*	41–83	–
4	**Warm Season**			25–41	
	sideoats grama	BOCU	*Bouteloua curtipendula*	25–41	–
5	**Warm Season**			41–83	
	spike dropseed	SPCO4	*Sporobolus contractus*	41–83	–
	sand dropseed	SPCR	*Sporobolus cryptandrus*	41–83	–
	mesa dropseed	SPFL2	*Sporobolus flexuosus*	41–83	–
6	**Warm Season**			17–41	
	threeawn	ARIST	*Aristida*	17–41	–
7	**Warm Season**			41–83	
	Arizona cottontop	DICA8	*Digitaria californica*	41–83	–
	plains bristlegrass	SEVU2	*Setaria vulpiseta*	41–83	–
8	**Warm Season**			41–83	
	mat sandbur	CELO3	*Cenchrus longispinus*	41–83	–
	hooded windmill grass	CHCU2	*Chloris cucullata*	41–83	–
9	**Other Perennial Grasses**			25–41	
	Grass, perennial	2GP	*Grass, perennial*	25–41	–
Shrub/Vine					
10	**Shrub**			8–25	
	javelina bush	COER5	*Condalia ericoides*	8–25	–
11	**Shrub**			8–25	
	yucca	YUCCA	*Yucca*	8–25	–
12	**Shrub**			8–25	
	jointfir	EPHED	*Ephedra*	8–25	–
	littleleaf ratany	KRER	*Krameria erecta*	8–25	–
13	**Shrub**			8–25	
	featherplume	DAFO	*Dalea formosa*	8–25	–
14	**Shrub**			8–25	
	broom snakeweed	GUSA2	*Gutierrezia sarothrae*	8–25	–
15	**Other Shrubs**			25–41	
	Shrub (>.5m)	2SHRUB	*Shrub (>.5m)*	25–41	–
Forb					
16	**Forb**			17–41	
	leatherweed	CRPOP	*Croton pottsii var. pottsii*	17–41	–

	Goodding's tansyaster	MAPIG2	*Machaeranthera pinnatifida ssp. gooddingii var. gooddingii*	17–41	–
17	**Forb**			17–41	
	woolly groundsel	PACA15	*Packera cana*	17–41	–
	threadleaf ragwort	SEFLF	*Senecio flaccidus var. flaccidus*	17–41	–
18	**Forb**			8–25	
	whitest evening primrose	OEAL	*Oenothera albicaulis*	8–25	–
19	**Other Forbs**			8–25	
	Forb (herbaceous, not grass nor grass-like)	2FORB	*Forb (herbaceous, not grass nor grass-like)*	8–25	–

Animal community

This site provides habitats which support a resident animal community that is characterized by pronghorn antelope, swift fox, black-tailed jackrabbit, spotted ground squirrel, Ord’s kangaroo rat, northern grasshopper mouse, coyote, horned lark, meadowlark, lark bunting, scaled quail, morning dove, side-blotched lizard, round-tailed horned lizard, marbled whiptail, prairie rattlesnake and ornate box turtle.

Hydrological functions

The runoff curve numbers are determined by field investigations using hydraulic cover conditions and hydrologic soil groups.

Hydrologic Interpretations
Soil Series Hydrologic Group
Jarag D
Simona D

Recreational uses

This site offers recreation for hiking, horseback riding, nature observation and photography, and quail and dove hunting. During years of abundant spring moisture, this site displays a riot of color from wildflowers during May and June. A few summer and fall flowers also occur.

Wood products

The natural potential plant community of this site affords little or no wood products. Where the site has been invaded by mesquite or cholla cactus the roots and stems of these plants provide attractive material for a variety of curiosities, such as lamps and small furniture.

Other products

This site is suitable for grazing by all kinds and classes of livestock during all seasons of the year. Because of the sandy textures and shallow profile, this site will respond rapidly to management. As this site deteriorates, plants such as black grama, bush muhly, blue and sideoats grama, plains bristlegrass and Arizona cottontop, will decrease and be replaced by plants such as threeawns, mesquite, creosote bush, and broom snakeweed. This also causes a decrease in ground cover, leaving the soil to blow. This site responds best to a system of management that rotates the season of use.

Other information

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month
Similarity Index Ac/AUM
100 - 76 2.5 – 3.5
75 – 51 3.2 – 4.6
50 – 26 4.5 – 7.5
25 – 0 7.6 +

Inventory data references

Data collection for this site was done in conjunction with the progressive soil surveys within the Southern Desertic Basins, Plains and Mountains, Major Land Resource Areas of New Mexico. This site has been mapped and correlated with soils in the following soil surveys. Eddy County, Lea County, and Chaves County.

Other references

Literature References:

1. Brooks, M.L. and D.A. Pyke. 2001. Invasive plants and fire in the deserts of North America. Pages 1–14 in K.E.M. Galley and T.P. Wilson (eds.). Proceedings of the Invasive Species Workshop: the Role of Fire in the Control and Spread of Invasive Species.

2. Hennessy, J.T., R.P. Gibbens, J.M. Tromble, and M. Cardenas. 1983. Water properties of caliche. J. Range Manage. 36: 723-726.

3. Humphrey, R.R. 1974. Fire in the deserts and desert grassland of North America. In:

Kozlowski, T. T.; Ahlgren, C. E., eds. Fire and ecosystems. New York: Academic Press: 365-400.

4. Moir, W.H., and J. A. Ludwig. 1991. Plant succession and changing land features in desert grasslands. P. 15-18. In P.F. Ffolliott and W.T. Swank (eds.) People and the temperate region: a summary of research from the United States Man and the Biosphere Program 1991. U.S. Dept. State, Publ No. 9839, Nat. Tech. Info. Serv., U.S. Dept. Commerce, Springfield, Illinois. 63 p.

5. Tiedemann, A. R. and J. O. Klemmedson. 1977. Effect of mesquite trees on vegetation and soils in the desert grassland. J. Range Manage. 30: 361-367.

6. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (2002, September). Fire Effects Information System, [Online]. Available: http://www.fs.fed.us/database/feis/ [accessed 2/10/03].

7. U.S. Department of Agriculture, Natural Resources Conservation Service. 2001. Soil Quality Information Sheets. Rangeland Soil Quality—Wind Erosion. Rangeland Sheet 10 [Online]. Available: http://www.statlab.iastate.edu/survey/SQI/range.html

8. U.S. Department of Agriculture, Natural Resources Conservation Service. 2001. Soil Quality Information Sheets. Rangeland Soil Quality—Physical and Biological Soil Crusts. Rangeland Sheet 7 [Online]. Available: http://www.statlab.iastate.edu/survey/SQI/range.html

Contributors

David Trujillo
Don Sylvester

Rangeland health reference sheet

Interpreting Indicators of Rangeland Health is a qualitative assessment protocol used to determine ecosystem condition based on benchmark characteristics described in the Reference Sheet. A suite of 17 (or more) indicators are typically considered in an assessment. The ecological site(s) representative of an assessment location must be known prior to applying the protocol and must be verified based on soils and climate. Current plant community cannot be used to identify the ecological site.

Author(s)/participant(s)	
Contact for lead author	
Date	

Approved by	
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:**

   _____

2. **Presence of water flow patterns:**

   _____

3. **Number and height of erosional pedestals or terracettes:**

   _____

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):**

   _____

5. **Number of gullies and erosion associated with gullies:**

   _____

6. **Extent of wind scoured, blowouts and/or depositional areas:**

   _____

7. **Amount of litter movement (describe size and distance expected to travel):**

   _____

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):**

   _____

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):**

   _____

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:**

---

11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):**

---

12. **Functional/Structural Groups (list in order of descending dominance by above-ground annual-production or live foliar cover using symbols: >>, >, = to indicate much greater than, greater than, and equal to):**

    Dominant:

    Sub-dominant:

    Other:

    Additional:

---

13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):**

---

14. **Average percent litter cover (%) and depth (in):**

---

15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):**

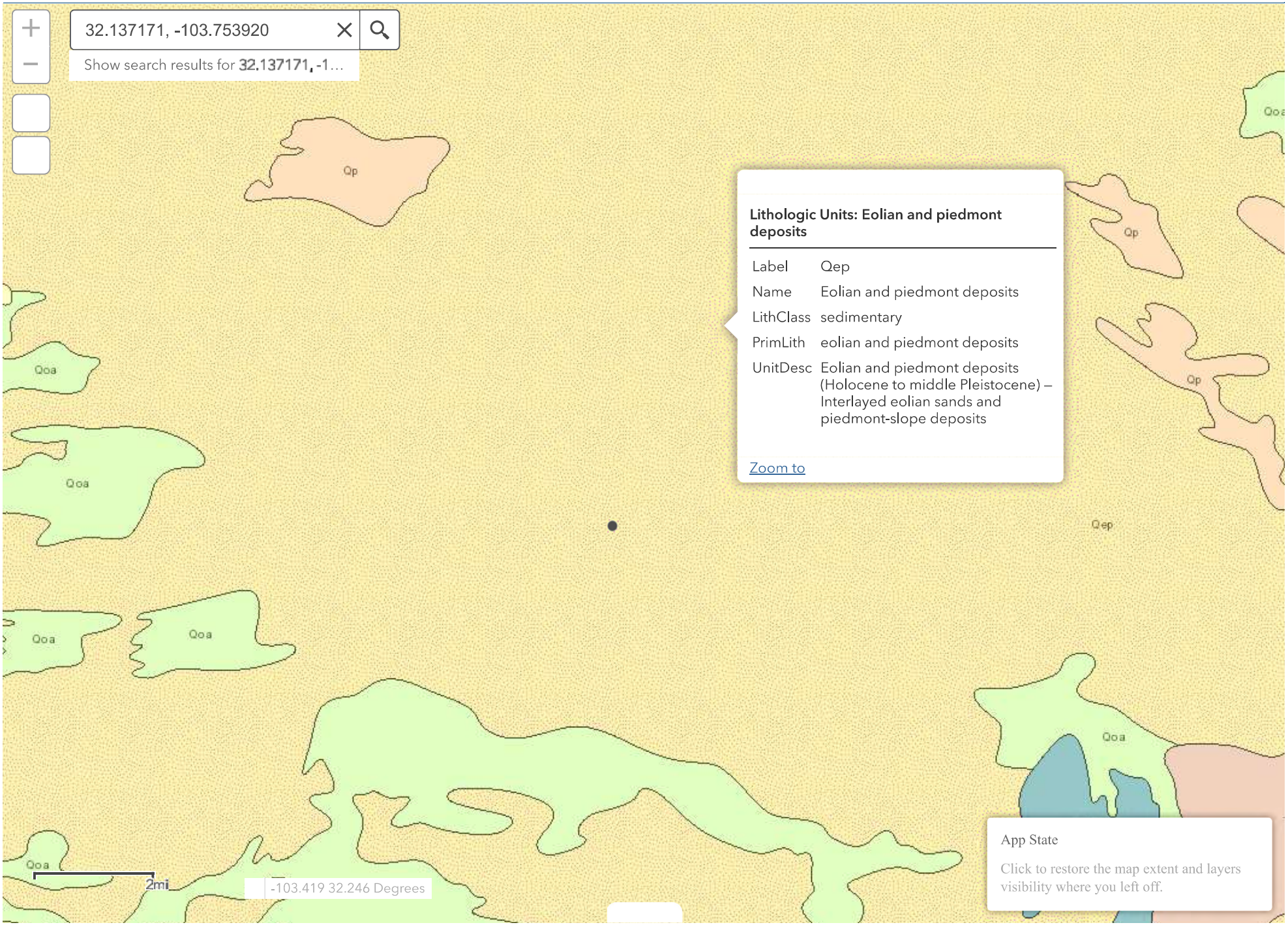
---

16. **Potential invasive (including noxious) species (native and non-native). List species which BOTH characterize degraded states and have the potential to become a dominant or co-dominant species on the ecological site if their future establishment and growth is not actively controlled by management interventions. Species that become dominant for only one to several years (e.g., short-term response to drought or wildfire) are not invasive plants. Note that unlike other indicators, we are describing what is NOT expected in the reference state for the ecological site:**

17. **Perennial plant reproductive capability:**

Received by OCD: 6/6/2025 11:49:16 AM

NMBGMR Interactive Resources Map



Released to Imaging: 7/16/2025 3:05:38 PM

APPENDIX C – Daily Field Reports

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	8/15/2023
Site Location Name:	Cotton Draw 14 Fed Com 1H	Report Run Date:	8/15/2023 11:00 PM
Client Contact Name:	Jim Raley	API #:	30-015-42091
Client Contact Phone #:	575-748-0176		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	8/15/2023 7:45 AM
Departed Site	8/15/2023 3:30 PM

Field Notes

14:26 Completed safety paperwork and initial magnetic sweep upon arrival to site

14:30 On site to delineate release that occurred on 7/17/2016 from baron valve on immediate west side of tank battery

14:31 Obtained BH23-01 @ 0, 2, 4’

Obtained BH23-02 @ 0, 2, 4’

Obtained BH23-03 @ 0, and 2’

Next Steps & Recommendations

1 Continue delineation

Daily Site Visit Report

Site Photos

Viewing Direction: South

Spill area

Viewing Direction: North

Spill area

Viewing Direction: East

BH23-01

Viewing Direction: Northeast

BH23-02

Daily Site Visit Report

Viewing Direction: North	**Viewing Direction**: East
	
BH23-03	POR

Viewing Direction: West	**Viewing Direction**: North
	
Origin of release	Opposite end of line has been cut and remains open. If another release occurs, more fluid could spill outside containment. Recommend cap.

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Austin Harris

Signature: 

Signature

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	8/16/2023
Site Location Name:	Cotton Draw 14 Fed Com 1H	Report Run Date:	8/16/2023 10:40 PM
Client Contact Name:	Jim Raley	API #:	30-015-42091
Client Contact Phone #:	575-748-0176		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	8/16/2023 7:45 AM
Departed Site	8/16/2023 3:05 PM

Field Notes

14:27 Completed safety paperwork and initial magnetic sweep upon arrival to site

14:27 Continuing delineation

14:28 Obtained :
BH23-01 @ 5’
BH23-04, 05, 06, and 07 all at 0 and 2’ depth.
(BH23-05 hit refusal at 2’ for vertical delineation)

15:04 Middle area for vertical delineation needs to go further than hand auger can get to. Mechanical assistance is absolutely needed to obtain clean for delineation purposes.

15:05 To date, north and west side is delineated and found clean right on inside of earth berm.

Next Steps & Recommendations

1 Continue delineation on east side of release up against the battery containment.

Daily Site Visit Report

Site Photos

Viewing Direction: Northwest

BH23-04 on west edge earth berm

Viewing Direction: North

BH23-05 in northern portion of spill area towards gate

Viewing Direction: North

BH24-06 on far north end near gate

Viewing Direction: South

BH23-07 on west earth berm towards north end

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Austin Harris

Signature: 

Signature

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	8/17/2023
Site Location Name:	Cotton Draw 14 Fed Com 1H	Report Run Date:	8/17/2023 9:22 PM
Client Contact Name:	Jim Raley	API #:	30-015-42091
Client Contact Phone #:	575-748-0176		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	8/17/2023 8:15 AM
Departed Site	8/17/2023 1:00 PM

Field Notes

12:23 Completed safety paperwork and initial line locate upon arrival to site

12:23 On site to complete delineation

12:23 Obtained BH23-08 and 09 on east side of release butting up against west side of tank battery containment

Next Steps & Recommendations

1 Get mechanical assistance to find vertical as we are hitting refusal with hand digging techniques

Daily Site Visit Report

Site Photos

Viewing Direction: South

BH23-08

Viewing Direction: Southeast

BH23-09

Viewing Direction: South

Topography slopes east to west. Water pooled along fence line, although all horizontal boreholes are clean/ under strictest criteria.

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Austin Harris

Signature: 
Signature

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	1/30/2024
Site Location Name:	Cotton Draw 14 Fed Com 1H	Report Run Date:	1/30/2024 11:07 PM
Client Contact Name:	Dale Woodall	API #:	30-015-42091
Client Contact Phone #:	405-318-4697		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	1/30/2024 1:06 PM
Departed Site	1/30/2024 3:20 PM

Field Notes

20:39 Arrived on site 1:06pm. Held safety meeting and chatted with crew about project.

20:40 Instructed crew to dig down to 5.5' or 6' at sample area BH23-05.

22:04 Gathered sample 05 at 6', which tested clean for chlorides and hydrocarbons.

22:05 Instructed crew to backfill sample area.

22:21 Left site 3:20pm and headed to office.

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: West

Placard

Viewing Direction: South

Sample point BH23-05

Viewing Direction: Southeast

View of area.

Viewing Direction: South

Backfilled sample area.

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Zachery Englebert

Signature: 

Daily Site Visit Report

Client:	Devon Energy Corporation	Inspection Date:	2/6/2025
Site Location Name:	Cotton Draw 14 Fed Com 1H	Report Run Date:	2/13/2025 6:46 PM
Client Contact Name:	Dale Woodall	API #:	30-015-42091
Client Contact Phone #:	405-318-4697		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	2/6/2025 9:30 AM
Departed Site	2/6/2025 2:15 PM

Field Notes

9:55 Confirmation samples (BS25-01 through BH25-08) were collected

9:55 Samples were field screened

Next Steps & Recommendations

1 Level and jar samples

2 COC samples

3 Send to lab for further analysis

Daily Site Visit Report

Site Photos

Viewing Direction: South	**Viewing Direction**: South
	
BS25-01 @ 0’	BS25-02 @ 0’
Viewing Direction: South	**Viewing Direction**: Southeast
	
BS25-03 @ 0’	BS25-04 @ 0’

Daily Site Visit Report

Viewing Direction: Southeast	**Viewing Direction**: South
	
BS25-05 @ 0’	BS25-06 @ 0’
Viewing Direction: South	**Viewing Direction**: North
	
BS25-07 @ 0’	BS25-08 @ 0’

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Riley Arnold

Signature: 

Daily Site Visit Report

Client:	Devon Energy Corporation	Incident ID #:	nAB1620452870
Site Location Name:	Cotton Draw 14 Fed Com 1H	API #:	30-015-42091
Inspection Date:	5/23/2025		

Summary of Times	
Arrived at Site	5/23/2025 10:00 AM
Departed Site	5/23/2025 12:40 PM

Daily Site Visit Report

Site Sketch

Site Sketch

Daily Site Visit Report

Field Notes

10:12 Arrived on site at 10:00 AM. Completed job safety assessment and safety paperwork.

12:34 Collected discrete borehole samples to delineate release, east of berm on the pad. Samples BH24-12 and -13 are collected at 0 and 2 ft stepped out from BH23-04 and -07.

12:35 Field screened samples for chlorides and hydrocarbons.
Samples yielded field results below criteria limits.

12:35 Prepared samples for lab per standards.

Next Steps & Recommendations

1 Lab analytics

Daily Site Visit Report

Site Photos

Viewing Direction: South	**Viewing Direction**: South
	
Site information placard	BH25-12 at 0 and 2 ft
Viewing Direction: East	**Viewing Direction**: South
	
BH25-12 at 0 and 2 ft	BH25-13 at 0 and 2 ft

Daily Site Visit Report

Viewing Direction: East	**Viewing Direction**: North
	
BH25-13 at 0 and 2 ft	Western edge delineation on pad, east of berm.

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Stephanie McCartyM

Signature: 

APPENDIX D – Laboratory Data Reports and Chain of Custody Forms

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

August 23, 2023

Kent Stallings

Devon Energy
6488 Seven Rivers Highway
Artesia, NM 88210
TEL: (505) 350-1336
FAX:

RE: Cotton Draw 14 Fed Com 1H OrderNo.: 2308964

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 8 sample(s) on 8/17/2023 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2308964**
Date Reported: **8/23/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw 14 Fed Com 1H
Lab ID: 2308964-001 **Matrix:** SOIL

Client Sample ID: BH23-01 0.0'
Collection Date: 8/15/2023 9:00:00 AM
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/18/2023 8:25:35 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/18/2023 8:25:35 AM
Surr: DNOP	76.1	69-147		%Rec	1	8/18/2023 8:25:35 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/19/2023 3:08:00 AM
Surr: BFB	98.2	15-244		%Rec	1	8/19/2023 3:08:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	8/19/2023 3:08:00 AM
Toluene	ND	0.048		mg/Kg	1	8/19/2023 3:08:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	8/19/2023 3:08:00 AM
Xylenes, Total	ND	0.095		mg/Kg	1	8/19/2023 3:08:00 AM
Surr: 4-Bromofluorobenzene	91.9	39.1-146		%Rec	1	8/19/2023 3:08:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	ND	60		mg/Kg	20	8/18/2023 12:42:32 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308964**
Date Reported: **8/23/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw 14 Fed Com 1H
Lab ID: 2308964-002 **Matrix:** SOIL

Client Sample ID: BH23-01 2.0'
Collection Date: 8/15/2023 9:10:00 AM
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/18/2023 9:36:57 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/18/2023 9:36:57 AM
Surr: DNOP	83.3	69-147		%Rec	1	8/18/2023 9:36:57 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/19/2023 4:13:00 AM
Surr: BFB	98.2	15-244		%Rec	1	8/19/2023 4:13:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.025		mg/Kg	1	8/19/2023 4:13:00 AM
Toluene	ND	0.049		mg/Kg	1	8/19/2023 4:13:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	8/19/2023 4:13:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	8/19/2023 4:13:00 AM
Surr: 4-Bromofluorobenzene	92.0	39.1-146		%Rec	1	8/19/2023 4:13:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	600	60		mg/Kg	20	8/18/2023 1:19:46 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308964**
Date Reported: **8/23/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-01 4.0'
Project: Cotton Draw 14 Fed Com 1H
Collection Date: 8/15/2023 9:20:00 AM
Lab ID: 2308964-003 **Matrix:** SOIL **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/18/2023 10:00:46 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/18/2023 10:00:46 AM
Surr: DNOP	88.6	69-147		%Rec	1	8/18/2023 10:00:46 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/19/2023 4:35:00 AM
Surr: BFB	99.6	15-244		%Rec	1	8/19/2023 4:35:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	8/19/2023 4:35:00 AM
Toluene	ND	0.048		mg/Kg	1	8/19/2023 4:35:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	8/19/2023 4:35:00 AM
Xylenes, Total	ND	0.096		mg/Kg	1	8/19/2023 4:35:00 AM
Surr: 4-Bromofluorobenzene	92.9	39.1-146		%Rec	1	8/19/2023 4:35:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	590	59		mg/Kg	20	8/18/2023 1:32:10 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308964**
Date Reported: **8/23/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-02 0.0'
Project: Cotton Draw 14 Fed Com 1H
Collection Date: 8/15/2023 9:30:00 AM
Lab ID: 2308964-004 **Matrix:** SOIL
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/18/2023 10:24:36 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/18/2023 10:24:36 AM
Surr: DNOP	64.4	69-147	S	%Rec	1	8/18/2023 10:24:36 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/19/2023 4:57:00 AM
Surr: BFB	100	15-244		%Rec	1	8/19/2023 4:57:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	8/19/2023 4:57:00 AM
Toluene	ND	0.048		mg/Kg	1	8/19/2023 4:57:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	8/19/2023 4:57:00 AM
Xylenes, Total	ND	0.096		mg/Kg	1	8/19/2023 4:57:00 AM
Surr: 4-Bromofluorobenzene	92.1	39.1-146		%Rec	1	8/19/2023 4:57:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	ND	60		mg/Kg	20	8/18/2023 1:44:35 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308964**
Date Reported: **8/23/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw 14 Fed Com 1H
Lab ID: 2308964-005 **Matrix:** SOIL

Client Sample ID: BH23-02 2.0'
Collection Date: 8/15/2023 9:40:00 AM
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/18/2023 10:48:23 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/18/2023 10:48:23 AM
Surr: DNOP	83.0	69-147		%Rec	1	8/18/2023 10:48:23 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/19/2023 5:19:00 AM
Surr: BFB	101	15-244		%Rec	1	8/19/2023 5:19:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	8/19/2023 5:19:00 AM
Toluene	ND	0.047		mg/Kg	1	8/19/2023 5:19:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	8/19/2023 5:19:00 AM
Xylenes, Total	ND	0.095		mg/Kg	1	8/19/2023 5:19:00 AM
Surr: 4-Bromofluorobenzene	92.2	39.1-146		%Rec	1	8/19/2023 5:19:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	ND	60		mg/Kg	20	8/18/2023 1:56:59 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308964**
Date Reported: **8/23/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-02 4.0'
Project: Cotton Draw 14 Fed Com 1H
Collection Date: 8/15/2023 9:50:00 AM
Lab ID: 2308964-006 **Matrix:** SOIL **Received Date:** 8/17/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/18/2023 11:12:11 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/18/2023 11:12:11 AM
Surr: DNOP	118	69-147		%Rec	1	8/18/2023 11:12:11 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	8/19/2023 6:02:00 AM
Surr: BFB	103	15-244		%Rec	1	8/19/2023 6:02:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.023		mg/Kg	1	8/19/2023 6:02:00 AM
Toluene	ND	0.046		mg/Kg	1	8/19/2023 6:02:00 AM
Ethylbenzene	ND	0.046		mg/Kg	1	8/19/2023 6:02:00 AM
Xylenes, Total	ND	0.092		mg/Kg	1	8/19/2023 6:02:00 AM
Surr: 4-Bromofluorobenzene	91.8	39.1-146		%Rec	1	8/19/2023 6:02:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	ND	60		mg/Kg	20	8/18/2023 2:09:24 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308964**
Date Reported: **8/23/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-03 0.0'
Project: Cotton Draw 14 Fed Com 1H
Collection Date: 8/15/2023 10:00:00 AM
Lab ID: 2308964-007 **Matrix:** SOIL
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	8/22/2023 12:30:31 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/22/2023 12:30:31 PM
Surr: DNOP	78.0	69-147		%Rec	1	8/22/2023 12:30:31 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/19/2023 6:24:00 AM
Surr: BFB	101	15-244		%Rec	1	8/19/2023 6:24:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	8/19/2023 6:24:00 AM
Toluene	ND	0.049		mg/Kg	1	8/19/2023 6:24:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	8/19/2023 6:24:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	8/19/2023 6:24:00 AM
Surr: 4-Bromofluorobenzene	94.2	39.1-146		%Rec	1	8/19/2023 6:24:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	500	60		mg/Kg	20	8/18/2023 2:21:48 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308964**
Date Reported: **8/23/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Project: Cotton Draw 14 Fed Com 1H
Lab ID: 2308964-008 **Matrix:** SOIL

Client Sample ID: BH23-03 2.0
Collection Date: 8/15/2023 10:10:00 AM
Received Date: 8/17/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/18/2023 12:47:40 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/18/2023 12:47:40 PM
Surr: DNOP	103	69-147		%Rec	1	8/18/2023 12:47:40 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/19/2023 6:45:00 AM
Surr: BFB	99.3	15-244		%Rec	1	8/19/2023 6:45:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	8/19/2023 6:45:00 AM
Toluene	ND	0.047		mg/Kg	1	8/19/2023 6:45:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	8/19/2023 6:45:00 AM
Xylenes, Total	ND	0.095		mg/Kg	1	8/19/2023 6:45:00 AM
Surr: 4-Bromofluorobenzene	92.3	39.1-146		%Rec	1	8/19/2023 6:45:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **JTT**
Chloride	74	60		mg/Kg	20	8/18/2023 2:34:12 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308964**

23-Aug-23

Client: Devon Energy

Project: Cotton Draw 14 Fed Com 1H

Sample ID: **MB-76940**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **76940**	RunNo: **99079**
Prep Date: **8/18/2023**	Analysis Date: **8/18/2023**	SeqNo: **3611672** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-76940**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **76940**	RunNo: **99079**
Prep Date: **8/18/2023**	Analysis Date: **8/18/2023**	SeqNo: **3611673** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.4	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308964**

23-Aug-23

Client: Devon Energy

Project: Cotton Draw 14 Fed Com 1H

Sample ID: **MB-76932**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **76932**	RunNo: **99076**
Prep Date: **8/17/2023**	Analysis Date: **8/18/2023**	SeqNo: **3611404** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.4		10.00		84.1	69	147			

Sample ID: **LCS-76932**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **76932**	RunNo: **99076**
Prep Date: **8/17/2023**	Analysis Date: **8/18/2023**	SeqNo: **3611405** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	86.5	61.9	130			
Surr: DNOP	3.8		5.000		75.1	69	147			

Sample ID: **2308964-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH23-01 0.0'**	Batch ID: **76932**	RunNo: **99076**
Prep Date: **8/17/2023**	Analysis Date: **8/18/2023**	SeqNo: **3611407** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	9.6	47.76	0	91.6	54.2	135			
Surr: DNOP	4.0		4.776		83.9	69	147			

Sample ID: **2308964-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH23-01 0.0'**	Batch ID: **76932**	RunNo: **99076**
Prep Date: **8/17/2023**	Analysis Date: **8/18/2023**	SeqNo: **3611408** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	39	9.5	47.39	0	82.9	54.2	135	10.7	29.2	
Surr: DNOP	3.6		4.739		75.2	69	147	0	0	

Sample ID: **MB-76983**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **76983**	RunNo: **99148**
Prep Date: **8/21/2023**	Analysis Date: **8/22/2023**	SeqNo: **3614304** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.3		10.00		83.2	69	147			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308964**

23-Aug-23

Client: Devon Energy

Project: Cotton Draw 14 Fed Com 1H

Sample ID: **LCS-76983**	SampType: **LCS**		TestCode: **EPA Method 8015M/D: Diesel Range Organics**		
Client ID: **LCSS**	Batch ID: **76983**		RunNo: **99148**		
Prep Date: **8/21/2023**	Analysis Date: **8/22/2023**		SeqNo: **3614305**	Units: **mg/Kg**	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	97.6	61.9	130			
Surr: DNOP	4.4		5.000		88.6	69	147			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308964**

23-Aug-23

Client: Devon Energy

Project: Cotton Draw 14 Fed Com 1H

Sample ID: **lcs-76926**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **LCSS**	Batch ID: **76926**	RunNo: **99068**							
Prep Date: **8/17/2023**	Analysis Date: **8/19/2023**	SeqNo: **3611957**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	5.0	25.00	0	81.3	70	130			
Surr: BFB	2100		1000		215	15	244			

Sample ID: **mb-76926**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **PBS**	Batch ID: **76926**	RunNo: **99068**							
Prep Date: **8/17/2023**	Analysis Date: **8/19/2023**	SeqNo: **3611958**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		103	15	244			

Sample ID: **2308964-001ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **BH23-01 0.0'**	Batch ID: **76926**	RunNo: **99068**							
Prep Date: **8/17/2023**	Analysis Date: **8/19/2023**	SeqNo: **3611963**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	4.8	23.81	0	81.6	70	130			
Surr: BFB	2000		952.4		214	15	244			

Sample ID: **2308964-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **BH23-01 0.0'**	Batch ID: **76926**	RunNo: **99068**							
Prep Date: **8/17/2023**	Analysis Date: **8/19/2023**	SeqNo: **3611964**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	4.8	23.76	0	81.5	70	130	0.337	20	
Surr: BFB	2000		950.6		209	15	244	0	0	

Sample ID: **lcs-76946**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **LCSS**	Batch ID: **76946**	RunNo: **99101**							
Prep Date: **8/18/2023**	Analysis Date: **8/21/2023**	SeqNo: **3613217**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	2100		1000		214	15	244			

Sample ID: **mb-76946**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **PBS**	Batch ID: **76946**	RunNo: **99101**							
Prep Date: **8/18/2023**	Analysis Date: **8/21/2023**	SeqNo: **3613218**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	970		1000		97.2	15	244			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308964**

23-Aug-23

Client: Devon Energy

Project: Cotton Draw 14 Fed Com 1H

Sample ID: **lcs-76926**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **76926**	RunNo: **99068**
Prep Date: **8/17/2023**	Analysis Date: **8/19/2023**	SeqNo: **3612066** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.025	1.000	0	82.8	70	130			
Toluene	0.84	0.050	1.000	0	83.6	70	130			
Ethylbenzene	0.85	0.050	1.000	0	85.2	70	130			
Xylenes, Total	2.5	0.10	3.000	0	84.8	70	130			
Surr: 4-Bromofluorobenzene	0.95		1.000		94.8	39.1	146			

Sample ID: **mb-76926**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **76926**	RunNo: **99068**
Prep Date: **8/17/2023**	Analysis Date: **8/19/2023**	SeqNo: **3612067** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.94		1.000		93.9	39.1	146			

Sample ID: **lcs-76946**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **76946**	RunNo: **99101**
Prep Date: **8/18/2023**	Analysis Date: **8/21/2023**	SeqNo: **3613314** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.95		1.000		95.3	39.1	146			

Sample ID: **mb-76946**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **76946**	RunNo: **99101**
Prep Date: **8/18/2023**	Analysis Date: **8/21/2023**	SeqNo: **3613315** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.93		1.000		93.0	39.1	146			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Page 103 of 214

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Devon Energy | Work Order Number: 2308964 | RcptNo: 1

Received By: Tracy Casarrubias 8/17/2023 7:40:00 AM

Completed By: Tracy Casarrubias 8/17/2023 8:22:25 AM

Reviewed By: SCM 8/17/23

Chain of Custody

1. Is Chain of Custody complete?	Yes ☐	No ☑	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: TMC 8/17/23

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: Mailing address,phone number and Email/Fax are missing on COC- TMC 8/17/23

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.4	Good	Yes	Yogi		

Received by OCD: 6/6/2025 11:49:16 AM

Released to Imaging: 7/16/2025 3:05:38 PM

Chain-of-Custody Record

Client: Devon

Direct Bill

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☐ Standard ☑ Rush 2 DAY

Project Name: Cotton Draw 14 Fed Com 2H

Project #: 23E-04453

Project Manager: Kent Stallings

Sampler: AH

On Ice: ☑ Yes ☐ No 4oqi

# of Coolers: 1

Cooler Temp(including CF): 3.4-0=3.4 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2308964	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
8-15-23	0900	Soil	BH23-01 0.0	4oz	ICE	001	✓	✓					✓			
	0910		BH23-01 2.0			002										
	0920		BH23-01 4.0			003										
	0930		BH23-02 0.0			004										
	0940		BH23-02 2.0			005										
	0950		BH23-02 4.0			006										
✓	1000	✓	BH23-03 0.0	✓	✓	007										
✓	1010	✓	BH23-03 2.0	✓	✓	008										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
					8/16/23	915
Date: 8/16/23	Time: 1900	Relinquished by:	Received by:	Via: Courier	Date 8/17/23	Time 7:40

Remarks: CC: kstallings@vertex.ca
aharris@vertex.ca

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Kent Stallings
Devon Energy
6488 Seven Rivers Highway
Artesia, NM 88210
TEL: (505) 350-1336
FAX:

RE: Cotton Draw 14 Fed Com 1H OrderNo.: 2308A29

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 9 sample(s) on 8/18/2023 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2308A29**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-01 5.0'
Project: Cotton Draw 14 Fed Com 1H
Collection Date: 8/16/2023 9:00:00 AM
Lab ID: 2308A29-001 **Matrix:** SOIL
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/19/2023 12:46:20 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/19/2023 12:46:20 AM
Surr: DNOP	84.8	69-147		%Rec	1	8/19/2023 12:46:20 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/21/2023 5:30:51 PM
Surr: BFB	96.8	15-244		%Rec	1	8/21/2023 5:30:51 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	8/21/2023 5:30:51 PM
Toluene	ND	0.047		mg/Kg	1	8/21/2023 5:30:51 PM
Ethylbenzene	ND	0.047		mg/Kg	1	8/21/2023 5:30:51 PM
Xylenes, Total	ND	0.093		mg/Kg	1	8/21/2023 5:30:51 PM
Surr: 4-Bromofluorobenzene	111	39.1-146		%Rec	1	8/21/2023 5:30:51 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	630	60		mg/Kg	20	8/21/2023 1:47:31 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A29**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-04 0.0'
Project: Cotton Draw 14 Fed Com 1H
Collection Date: 8/16/2023 9:10:00 AM
Lab ID: 2308A29-002 **Matrix:** SOIL
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/19/2023 1:10:16 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/19/2023 1:10:16 AM
Surr: DNOP	83.8	69-147		%Rec	1	8/19/2023 1:10:16 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/21/2023 5:54:26 PM
Surr: BFB	98.6	15-244		%Rec	1	8/21/2023 5:54:26 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	8/21/2023 5:54:26 PM
Toluene	ND	0.047		mg/Kg	1	8/21/2023 5:54:26 PM
Ethylbenzene	ND	0.047		mg/Kg	1	8/21/2023 5:54:26 PM
Xylenes, Total	ND	0.095		mg/Kg	1	8/21/2023 5:54:26 PM
Surr: 4-Bromofluorobenzene	113	39.1-146		%Rec	1	8/21/2023 5:54:26 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	8/21/2023 1:59:56 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308A29**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-04 2.0'
Project: Cotton Draw 14 Fed Com 1H
Collection Date: 8/16/2023 9:20:00 AM
Lab ID: 2308A29-003 **Matrix:** SOIL
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/19/2023 1:34:12 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/19/2023 1:34:12 AM
Surr: DNOP	82.2	69-147		%Rec	1	8/19/2023 1:34:12 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	8/21/2023 6:18:01 PM
Surr: BFB	98.7	15-244		%Rec	1	8/21/2023 6:18:01 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	8/21/2023 6:18:01 PM
Toluene	ND	0.046		mg/Kg	1	8/21/2023 6:18:01 PM
Ethylbenzene	ND	0.046		mg/Kg	1	8/21/2023 6:18:01 PM
Xylenes, Total	ND	0.092		mg/Kg	1	8/21/2023 6:18:01 PM
Surr: 4-Bromofluorobenzene	114	39.1-146		%Rec	1	8/21/2023 6:18:01 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	8/21/2023 2:12:20 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308A29**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-05 0.0'
Project: Cotton Draw 14 Fed Com 1H
Collection Date: 8/16/2023 9:30:00 AM
Lab ID: 2308A29-004 **Matrix:** SOIL
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/19/2023 1:58:06 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/19/2023 1:58:06 AM
Surr: DNOP	86.0	69-147		%Rec	1	8/19/2023 1:58:06 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	8/21/2023 6:41:38 PM
Surr: BFB	97.0	15-244		%Rec	1	8/21/2023 6:41:38 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	8/21/2023 6:41:38 PM
Toluene	ND	0.046		mg/Kg	1	8/21/2023 6:41:38 PM
Ethylbenzene	ND	0.046		mg/Kg	1	8/21/2023 6:41:38 PM
Xylenes, Total	ND	0.093		mg/Kg	1	8/21/2023 6:41:38 PM
Surr: 4-Bromofluorobenzene	113	39.1-146		%Rec	1	8/21/2023 6:41:38 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	770	60		mg/Kg	20	8/21/2023 2:24:45 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A29**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-05 2.0'
Project: Cotton Draw 14 Fed Com 1H
Collection Date: 8/16/2023 9:40:00 AM
Lab ID: 2308A29-005 **Matrix:** SOIL
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/19/2023 2:22:02 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/19/2023 2:22:02 AM
Surr: DNOP	86.7	69-147		%Rec	1	8/19/2023 2:22:02 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	8/21/2023 7:05:12 PM
Surr: BFB	96.3	15-244		%Rec	1	8/21/2023 7:05:12 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	8/21/2023 7:05:12 PM
Toluene	ND	0.046		mg/Kg	1	8/21/2023 7:05:12 PM
Ethylbenzene	ND	0.046		mg/Kg	1	8/21/2023 7:05:12 PM
Xylenes, Total	ND	0.093		mg/Kg	1	8/21/2023 7:05:12 PM
Surr: 4-Bromofluorobenzene	111	39.1-146		%Rec	1	8/21/2023 7:05:12 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	670	60		mg/Kg	20	8/21/2023 2:37:10 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A29**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-06 0.0'
Project: Cotton Draw 14 Fed Com 1H
Collection Date: 8/16/2023 9:50:00 AM
Lab ID: 2308A29-006 **Matrix:** SOIL
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	8/19/2023 2:45:57 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/19/2023 2:45:57 AM
Surr: DNOP	86.5	69-147		%Rec	1	8/19/2023 2:45:57 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	8/21/2023 7:28:43 PM
Surr: BFB	97.8	15-244		%Rec	1	8/21/2023 7:28:43 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	8/21/2023 7:28:43 PM
Toluene	ND	0.046		mg/Kg	1	8/21/2023 7:28:43 PM
Ethylbenzene	ND	0.046		mg/Kg	1	8/21/2023 7:28:43 PM
Xylenes, Total	ND	0.093		mg/Kg	1	8/21/2023 7:28:43 PM
Surr: 4-Bromofluorobenzene	113	39.1-146		%Rec	1	8/21/2023 7:28:43 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	100	60		mg/Kg	20	8/21/2023 2:49:35 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308A29**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-06 2.0'
Project: Cotton Draw 14 Fed Com 1H
Collection Date: 8/16/2023 10:00:00 AM
Lab ID: 2308A29-007 **Matrix:** SOIL
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	16	9.4		mg/Kg	1	8/21/2023 7:51:02 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/21/2023 7:51:02 PM
Surr: DNOP	110	69-147		%Rec	1	8/21/2023 7:51:02 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/21/2023 3:57:00 PM
Surr: BFB	100	15-244		%Rec	1	8/21/2023 3:57:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	8/21/2023 3:57:00 PM
Toluene	ND	0.047		mg/Kg	1	8/21/2023 3:57:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	8/21/2023 3:57:00 PM
Xylenes, Total	ND	0.094		mg/Kg	1	8/21/2023 3:57:00 PM
Surr: 4-Bromofluorobenzene	95.2	39.1-146		%Rec	1	8/21/2023 3:57:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	160	60		mg/Kg	20	8/21/2023 3:02:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308A29**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-07 0.0'
Project: Cotton Draw 14 Fed Com 1H
Collection Date: 8/16/2023 10:10:00 AM
Lab ID: 2308A29-008 **Matrix:** SOIL
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	37	9.9		mg/Kg	1	8/21/2023 8:55:02 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/21/2023 8:55:02 PM
Surr: DNOP	110	69-147		%Rec	1	8/21/2023 8:55:02 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	8/21/2023 5:03:00 PM
Surr: BFB	97.3	15-244		%Rec	1	8/21/2023 5:03:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.023		mg/Kg	1	8/21/2023 5:03:00 PM
Toluene	ND	0.046		mg/Kg	1	8/21/2023 5:03:00 PM
Ethylbenzene	ND	0.046		mg/Kg	1	8/21/2023 5:03:00 PM
Xylenes, Total	ND	0.093		mg/Kg	1	8/21/2023 5:03:00 PM
Surr: 4-Bromofluorobenzene	90.8	39.1-146		%Rec	1	8/21/2023 5:03:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	8/21/2023 3:14:24 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308A29**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-07 2.0'
Project: Cotton Draw 14 Fed Com 1H
Collection Date: 8/16/2023 10:20:00 AM
Lab ID: 2308A29-009 **Matrix:** SOIL
Received Date: 8/18/2023 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/22/2023 12:46:05 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/22/2023 12:46:05 PM
Surr: DNOP	97.0	69-147		%Rec	1	8/22/2023 12:46:05 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/21/2023 6:08:00 PM
Surr: BFB	97.1	15-244		%Rec	1	8/21/2023 6:08:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**
Benzene	ND	0.024		mg/Kg	1	8/21/2023 6:08:00 PM
Toluene	ND	0.048		mg/Kg	1	8/21/2023 6:08:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	8/21/2023 6:08:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	8/21/2023 6:08:00 PM
Surr: 4-Bromofluorobenzene	93.2	39.1-146		%Rec	1	8/21/2023 6:08:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **RBC**
Chloride	ND	60		mg/Kg	20	8/21/2023 3:51:37 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A29**

23-Aug-23

Client: Devon Energy

Project: Cotton Draw 14 Fed Com 1H

Sample ID: **MB-76966**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **76966**	RunNo: **99107**
Prep Date: **8/21/2023**	Analysis Date: **8/21/2023**	SeqNo: **3613352** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-76966**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **76966**	RunNo: **99107**
Prep Date: **8/21/2023**	Analysis Date: **8/21/2023**	SeqNo: **3613353** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.8	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A29**

23-Aug-23

Client: Devon Energy

Project: Cotton Draw 14 Fed Com 1H

Sample ID: **MB-76932**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **76932**	RunNo: **99076**							
Prep Date: **8/17/2023**	Analysis Date: **8/18/2023**	SeqNo: **3611404**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.4		10.00		84.1	69	147			

Sample ID: **LCS-76932**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **76932**	RunNo: **99076**							
Prep Date: **8/17/2023**	Analysis Date: **8/18/2023**	SeqNo: **3611405**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	3.8		5.000		75.1	69	147			

Sample ID: **MB-76947**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **PBS**	Batch ID: **76947**	RunNo: **99076**							
Prep Date: **8/18/2023**	Analysis Date: **8/18/2023**	SeqNo: **3612170**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.0		10.00		79.7	69	147			

Sample ID: **LCS-76947**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **LCSS**	Batch ID: **76947**	RunNo: **99076**							
Prep Date: **8/18/2023**	Analysis Date: **8/18/2023**	SeqNo: **3612171**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	91.8	61.9	130			
Surr: DNOP	3.8		5.000		76.3	69	147			

Sample ID: **2308A29-006AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **BH23-06 0.0'**	Batch ID: **76947**	RunNo: **99076**							
Prep Date: **8/18/2023**	Analysis Date: **8/19/2023**	SeqNo: **3612193**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	9.5	47.39	0	93.4	54.2	135			
Surr: DNOP	3.7		4.739		78.6	69	147			

Sample ID: **2308A29-006AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**							
Client ID: **BH23-06 0.0'**	Batch ID: **76947**	RunNo: **99076**							
Prep Date: **8/18/2023**	Analysis Date: **8/19/2023**	SeqNo: **3612194**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	8.9	44.60	0	92.3	54.2	135	7.22	29.2	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A29**

23-Aug-23

Client: Devon Energy

Project: Cotton Draw 14 Fed Com 1H

Sample ID: **2308A29-006AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH23-06 0.0'**	Batch ID: **76947**	RunNo: **99076**
Prep Date: **8/18/2023**	Analysis Date: **8/19/2023**	SeqNo: **3612194** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	3.5		4.460		77.7	69	147	0	0	

Sample ID: **MB-76961**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **76961**	RunNo: **99104**
Prep Date: **8/21/2023**	Analysis Date: **8/21/2023**	SeqNo: **3612364** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.3		10.00		82.5	69	147			

Sample ID: **LCS-76961**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **76961**	RunNo: **99104**
Prep Date: **8/21/2023**	Analysis Date: **8/21/2023**	SeqNo: **3612365** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.0		5.000		80.7	69	147			

Sample ID: **2308A29-007AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH23-06 2.0'**	Batch ID: **76949**	RunNo: **99119**
Prep Date: **8/18/2023**	Analysis Date: **8/21/2023**	SeqNo: **3612933** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	67	8.9	44.33	15.93	116	54.2	135			
Surr: DNOP	4.8		4.433		108	69	147			

Sample ID: **2308A29-007AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH23-06 2.0'**	Batch ID: **76949**	RunNo: **99119**
Prep Date: **8/18/2023**	Analysis Date: **8/21/2023**	SeqNo: **3612934** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	9.3	46.25	15.93	80.5	54.2	135	23.8	29.2	
Surr: DNOP	5.3		4.625		114	69	147	0	0	

Sample ID: **MB-76949**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **76949**	RunNo: **99104**
Prep Date: **8/18/2023**	Analysis Date: **8/21/2023**	SeqNo: **3613454** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.7		10.00		86.6	69	147			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A29**

23-Aug-23

Client: Devon Energy

Project: Cotton Draw 14 Fed Com 1H

Sample ID: **LCS-76949**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **76949**	RunNo: **99104**
Prep Date: **8/18/2023**	Analysis Date: **8/21/2023**	SeqNo: **3613455** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	85.2	61.9	130			
Surr: DNOP	3.6		5.000		72.7	69	147			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A29**

23-Aug-23

Client: Devon Energy

Project: Cotton Draw 14 Fed Com 1H

Sample ID: **lcs-76939**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **LCSS**	Batch ID: **76939**	RunNo: **99112**							
Prep Date: **8/18/2023**	Analysis Date: **8/21/2023**	SeqNo: **3612471**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	87.9	70	130			
Surr: BFB	1900		1000		194	15	244			

Sample ID: **mb-76939**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **PBS**	Batch ID: **76939**	RunNo: **99112**							
Prep Date: **8/18/2023**	Analysis Date: **8/21/2023**	SeqNo: **3612472**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	970		1000		96.9	15	244			

Sample ID: **lcs-76946**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **LCSS**	Batch ID: **76946**	RunNo: **99101**							
Prep Date: **8/18/2023**	Analysis Date: **8/21/2023**	SeqNo: **3613217**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	87.8	70	130			
Surr: BFB	2100		1000		214	15	244			

Sample ID: **mb-76946**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **PBS**	Batch ID: **76946**	RunNo: **99101**							
Prep Date: **8/18/2023**	Analysis Date: **8/21/2023**	SeqNo: **3613218**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	970		1000		97.2	15	244			

Sample ID: **2308A29-007ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **BH23-06 2.0'**	Batch ID: **76946**	RunNo: **99101**							
Prep Date: **8/18/2023**	Analysis Date: **8/21/2023**	SeqNo: **3613220**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	4.7	23.52	0	81.0	70	130			
Surr: BFB	2000		940.7		210	15	244			

Sample ID: **2308A29-007amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **BH23-06 2.0'**	Batch ID: **76946**	RunNo: **99101**							
Prep Date: **8/18/2023**	Analysis Date: **8/21/2023**	SeqNo: **3613221**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A29**

23-Aug-23

Client: Devon Energy

Project: Cotton Draw 14 Fed Com 1H

Sample ID: **2308A29-007amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH23-06 2.0'**	Batch ID: **76946**	RunNo: **99101**
Prep Date: **8/18/2023**	Analysis Date: **8/21/2023**	SeqNo: **3613221** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.7	23.63	0	87.5	70	130	8.16	20	
Surr: BFB	2000		945.2		210	15	244	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A29**

23-Aug-23

Client: Devon Energy

Project: Cotton Draw 14 Fed Com 1H

Sample ID: **LCS-76939**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **76939**	RunNo: **99112**
Prep Date: **8/18/2023**	Analysis Date: **8/21/2023**	SeqNo: **3612483** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.025	1.000	0	88.2	70	130			
Toluene	0.90	0.050	1.000	0	89.7	70	130			
Ethylbenzene	0.91	0.050	1.000	0	91.3	70	130			
Xylenes, Total	2.8	0.10	3.000	0	93.5	70	130			
Surr: 4-Bromofluorobenzene	1.1		1.000		110	39.1	146			

Sample ID: **mb-76939**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **76939**	RunNo: **99112**
Prep Date: **8/18/2023**	Analysis Date: **8/21/2023**	SeqNo: **3612484** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		113	39.1	146			

Sample ID: **lcs-76946**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **76946**	RunNo: **99101**
Prep Date: **8/18/2023**	Analysis Date: **8/21/2023**	SeqNo: **3613314** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.80	0.025	1.000	0	79.9	70	130			
Toluene	0.81	0.050	1.000	0	80.7	70	130			
Ethylbenzene	0.83	0.050	1.000	0	82.9	70	130			
Xylenes, Total	2.5	0.10	3.000	0	82.8	70	130			
Surr: 4-Bromofluorobenzene	0.95		1.000		95.3	39.1	146			

Sample ID: **mb-76946**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **76946**	RunNo: **99101**
Prep Date: **8/18/2023**	Analysis Date: **8/21/2023**	SeqNo: **3613315** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.93		1.000		93.0	39.1	146			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308A29**

23-Aug-23

Client: Devon Energy

Project: Cotton Draw 14 Fed Com 1H

Sample ID: **2308A29-008ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH23-07 0.0'**	Batch ID: **76946**	RunNo: **99101**
Prep Date: **8/18/2023**	Analysis Date: **8/21/2023**	SeqNo: **3613318** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.78	0.023	0.9225	0	84.7	70	130			
Toluene	0.79	0.046	0.9225	0	85.9	70	130			
Ethylbenzene	0.83	0.046	0.9225	0	89.6	70	130			
Xylenes, Total	2.5	0.092	2.768	0	89.7	70	130			
Surr: 4-Bromofluorobenzene	0.85		0.9225		92.4	39.1	146			

Sample ID: **2308A29-008amsd**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH23-07 0.0'**	Batch ID: **76946**	RunNo: **99101**
Prep Date: **8/18/2023**	Analysis Date: **8/21/2023**	SeqNo: **3613319** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.80	0.023	0.9225	0	87.1	70	130	2.71	20	
Toluene	0.82	0.046	0.9225	0	88.6	70	130	3.05	20	
Ethylbenzene	0.85	0.046	0.9225	0	91.8	70	130	2.41	20	
Xylenes, Total	2.5	0.092	2.768	0	92.0	70	130	2.51	20	
Surr: 4-Bromofluorobenzene	0.86		0.9225		93.7	39.1	146	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Page 123 of 214

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Devon Energy | Work Order Number: 2308A29 | RcptNo: 1

Received By: Tracy Casarrubias 8/18/2023 7:40:00 AM

Completed By: Tracy Casarrubias 8/18/2023 8:16:29 AM

Reviewed By: JN 8/18/23

Chain of Custody

1. Is Chain of Custody complete?	Yes ☐	No ☑	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: / (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: SDM 8/18/23

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: Mailing address, phone number and Email/Fax are missing on COC- TMC 8/18/23

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	6.0	Good	Yes	Yogi		

Received by OCD: 6/6/2025 11:49:16 AM

Released to Imaging: 7/16/2025 3:05:38 PM

Chain-of-Custody Record

Client: Devon

Direct Bill

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☐ Standard ☑ Rush 2 DAY

Project Name: Cotton Draw 14 Fed Com 1H

Project #: 23E-04453

Project Manager: Kent Stallings

Sampler:

On Ice: ☑ Yes ☐ No 4091

# of Coolers: 1

Cooler Temp(including CF): 5.9+0.1=6.0 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name		Container Type and #	Preservative Type	HEAL No. 2308A29	BTEX / MTBE / TMB's (8021)	TPH 8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
8-16-23	0900	Soil	BH23-01	5.0	4oz	ICE	001										
	0910		BH23-04	0.0			002										
	0920		BH23-04	2.0			003										
	0930		BH23-05	0.0			004										
	0940		BH23-05	2.0			005										
	0950		BH23-06	0.0			006										
	1000		BH23-06	2.0			007										
	1010		BH23-07	0.0			008										
	1020		BH23-07	2.0			009										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
					8/17/23	915
Date: 8/17/23	Time: 1900	Relinquished by:	Received by:	Via: courier	Date 8/18/23	Time 7:40

Remarks: CC: kstallings@vertex.ca
aharris@vertex.ca

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

August 29, 2023

Kent Stallings

Devon Energy
6488 Seven Rivers Highway
Artesia, NM 88210
TEL: (505) 350-1336
FAX:

RE: Cotton Draw 14 Fed Com 1H OrderNo.: 2308C20

Dear Kent Stallings:

Hall Environmental Analysis Laboratory received 4 sample(s) on 8/23/2023 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2308C20**
Date Reported: **8/29/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-08 0.0'
Project: Cotton Draw 14 Fed Com 1H
Collection Date: 8/17/2023 9:00:00 AM
Lab ID: 2308C20-001 **Matrix:** SOIL
Received Date: 8/23/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	ND	8.8		mg/Kg	1	8/24/2023 11:02:17 AM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	8/24/2023 11:02:17 AM
Surr: DNOP	110	69-147		%Rec	1	8/24/2023 11:02:17 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/24/2023 11:36:20 AM
Surr: BFB	93.3	15-244		%Rec	1	8/24/2023 11:36:20 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	8/24/2023 11:36:20 AM
Toluene	ND	0.049		mg/Kg	1	8/24/2023 11:36:20 AM
Ethylbenzene	ND	0.049		mg/Kg	1	8/24/2023 11:36:20 AM
Xylenes, Total	ND	0.098		mg/Kg	1	8/24/2023 11:36:20 AM
Surr: 4-Bromofluorobenzene	107	39.1-146		%Rec	1	8/24/2023 11:36:20 AM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	120	60		mg/Kg	20	8/24/2023 10:50:58 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308C20**
Date Reported: **8/29/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-08 2.0'
Project: Cotton Draw 14 Fed Com 1H
Collection Date: 8/17/2023 9:10:00 AM
Lab ID: 2308C20-002 **Matrix:** SOIL
Received Date: 8/23/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/24/2023 11:12:55 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/24/2023 11:12:55 AM
Surr: DNOP	101	69-147		%Rec	1	8/24/2023 11:12:55 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/24/2023 11:59:50 AM
Surr: BFB	92.6	15-244		%Rec	1	8/24/2023 11:59:50 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	8/24/2023 11:59:50 AM
Toluene	ND	0.048		mg/Kg	1	8/24/2023 11:59:50 AM
Ethylbenzene	ND	0.048		mg/Kg	1	8/24/2023 11:59:50 AM
Xylenes, Total	ND	0.097		mg/Kg	1	8/24/2023 11:59:50 AM
Surr: 4-Bromofluorobenzene	105	39.1-146		%Rec	1	8/24/2023 11:59:50 AM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	160	60		mg/Kg	20	8/24/2023 11:03:23 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308C20**
Date Reported: **8/29/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-09 0.0'
Project: Cotton Draw 14 Fed Com 1H
Collection Date: 8/17/2023 9:20:00 AM
Lab ID: 2308C20-003 **Matrix:** SOIL **Received Date:** 8/23/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	8/24/2023 11:23:34 AM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	8/24/2023 11:23:34 AM
Surr: DNOP	100	69-147		%Rec	1	8/24/2023 11:23:34 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/24/2023 12:23:20 PM
Surr: BFB	92.4	15-244		%Rec	1	8/24/2023 12:23:20 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	8/24/2023 12:23:20 PM
Toluene	ND	0.050		mg/Kg	1	8/24/2023 12:23:20 PM
Ethylbenzene	ND	0.050		mg/Kg	1	8/24/2023 12:23:20 PM
Xylenes, Total	ND	0.099		mg/Kg	1	8/24/2023 12:23:20 PM
Surr: 4-Bromofluorobenzene	105	39.1-146		%Rec	1	8/24/2023 12:23:20 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	ND	60		mg/Kg	20	8/24/2023 11:15:48 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2308C20**
Date Reported: **8/29/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy
Client Sample ID: BH23-09 2.0'
Project: Cotton Draw 14 Fed Com 1H
Collection Date: 8/17/2023 9:30:00 AM
Lab ID: 2308C20-004 **Matrix:** SOIL
Received Date: 8/23/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	8/24/2023 11:34:11 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/24/2023 11:34:11 AM
Surr: DNOP	101	69-147		%Rec	1	8/24/2023 11:34:11 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/24/2023 12:46:57 PM
Surr: BFB	95.2	15-244		%Rec	1	8/24/2023 12:46:57 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	8/24/2023 12:46:57 PM
Toluene	ND	0.049		mg/Kg	1	8/24/2023 12:46:57 PM
Ethylbenzene	ND	0.049		mg/Kg	1	8/24/2023 12:46:57 PM
Xylenes, Total	ND	0.098		mg/Kg	1	8/24/2023 12:46:57 PM
Surr: 4-Bromofluorobenzene	108	39.1-146		%Rec	1	8/24/2023 12:46:57 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	ND	60		mg/Kg	20	8/24/2023 11:28:12 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308C20**

29-Aug-23

Client: Devon Energy

Project: Cotton Draw 14 Fed Com 1H

Sample ID: **MB-77062**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **77062**	RunNo: **99222**							
Prep Date: **8/24/2023**	Analysis Date: **8/24/2023**	SeqNo: **3618884**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-77062**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **77062**	RunNo: **99222**							
Prep Date: **8/24/2023**	Analysis Date: **8/24/2023**	SeqNo: **3618885**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	98.6	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308C20**

29-Aug-23

Client: Devon Energy

Project: Cotton Draw 14 Fed Com 1H

Sample ID: **MB-77052**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **77052**	RunNo: **99199**
Prep Date: **8/23/2023**	Analysis Date: **8/24/2023**	SeqNo: **3617393** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.8		10.00		97.8	69	147			

Sample ID: **LCS-77052**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **77052**	RunNo: **99199**
Prep Date: **8/23/2023**	Analysis Date: **8/24/2023**	SeqNo: **3617395** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	96.4	61.9	130			
Surr: DNOP	5.0		5.000		99.2	69	147			

Sample ID: **MB-77049**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **77049**	RunNo: **99199**
Prep Date: **8/23/2023**	Analysis Date: **8/25/2023**	SeqNo: **3617816** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		114	69	147			

Sample ID: **LCS-77049**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **77049**	RunNo: **99199**
Prep Date: **8/23/2023**	Analysis Date: **8/25/2023**	SeqNo: **3617819** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.7		5.000		115	69	147			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308C20**

29-Aug-23

Client: Devon Energy

Project: Cotton Draw 14 Fed Com 1H

Sample ID: **lcs-77048**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **77048**	RunNo: **99204**
Prep Date: **8/23/2023**	Analysis Date: **8/24/2023**	SeqNo: **3617284** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	5.0	25.00	0	80.4	70	130			
Surr: BFB	1900		1000		192	15	244			

Sample ID: **mb-77048**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **77048**	RunNo: **99204**
Prep Date: **8/23/2023**	Analysis Date: **8/24/2023**	SeqNo: **3617285** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	920		1000		91.8	15	244			

Sample ID: **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **GS99204**	RunNo: **99204**
Prep Date:	Analysis Date: **8/24/2023**	SeqNo: **3618212** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	2000		1000		198	15	244			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **GS99204**	RunNo: **99204**
Prep Date:	Analysis Date: **8/24/2023**	SeqNo: **3618213** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	920		1000		92.2	15	244			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2308C20**

29-Aug-23

Client: Devon Energy

Project: Cotton Draw 14 Fed Com 1H

Sample ID: **LCS-77048**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **77048**	RunNo: **99204**
Prep Date: **8/23/2023**	Analysis Date: **8/24/2023**	SeqNo: **3617291** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.025	1.000	0	98.8	70	130			
Toluene	1.0	0.050	1.000	0	101	70	130			
Ethylbenzene	1.0	0.050	1.000	0	102	70	130			
Xylenes, Total	3.1	0.10	3.000	0	103	70	130			
Surr: 4-Bromofluorobenzene	1.1		1.000		111	39.1	146			

Sample ID: **mb-77048**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **77048**	RunNo: **99204**
Prep Date: **8/23/2023**	Analysis Date: **8/24/2023**	SeqNo: **3617292** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		106	39.1	146			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Page 134 of 214

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Devon Energy | Work Order Number: 2308C20 | RcptNo: 1

Received By: Tracy Casarrubias 8/23/2023 7:30:00 AM

Completed By: Tracy Casarrubias 8/23/2023 8:26:25 AM

Reviewed By: SCM 8/23/23

Chain of Custody

1. Is Chain of Custody complete?	Yes ☐	No ☑	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: 8-23-23

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions: Mailing address,phone number, and Email/Fax are missing on COC - TMC 8/23/23

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.4	Good	Yes	yogi		

Received by OCD: 6/6/2025 11:49:16 AM

Released to Imaging: 7/16/2025 3:05:38 PM

Chain-of-Custody Record

Client: Devon

Direct Bill

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☐ Standard ☑ Rush 2 DAY

Project Name: Cotton Draw 14 Fed Com 1H

Project #: 23E-04453

Project Manager: Kent Stallings

Sampler: AH

On Ice: ☑ Yes ☐ No 4091

# of Coolers: 1

Cooler Temp(including CF): 3.4-0=3.4 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name		Container Type and #	Preservative Type	HEAL No. 2308C20	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
8-17-23	0900	Soil	BH23-08	0.0	402	ICE	001	✓	✓					✓			
↓	0910	↓	BH23-08	2.0	↓	↓	002										
↓	0920	↓	BH23-09	0.0	↓	↓	003										
	0930		BH23-09	2.0			004										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
					8/22/23	930
8/22/23	1900				8/23/23	7:30

Remarks: CC: kstallings@vertex.ca aharris@vertex.ca

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

eurofins | Environment Testing

Eurofins Environment Testing South Central, LLC
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

February 13, 2024

Kent Stallings

Vertex Resources Services, Inc.
3101 Boyd Drive
Carlsbad, NM 88220
TEL:
FAX:

RE: Cotton Draw 14 Federal Com 1H OrderNo.: 2402008

Dear Kent Stallings:

Eurofins Environment Testing South Central, LLC received 1 sample(s) on 2/1/2024 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please do not hesitate to contact Eurofins Albuquerque for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2402008**
Date Reported: **2/13/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-01 6'
Project: Cotton Draw 14 Federal Com 1H **Collection Date:** 1/30/2024 2:00:00 PM
Lab ID: 2402008-001 **Matrix:** SOIL **Received Date:** 2/1/2024 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	2/2/2024 11:43:23 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	2/2/2024 11:43:23 PM
Surr: DNOP	92.9	61.2-134		%Rec	1	2/2/2024 11:43:23 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	2/5/2024 9:00:15 PM
Surr: BFB	101	15-244		%Rec	1	2/5/2024 9:00:15 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	2/5/2024 9:00:15 PM
Toluene	ND	0.048		mg/Kg	1	2/5/2024 9:00:15 PM
Ethylbenzene	ND	0.048		mg/Kg	1	2/5/2024 9:00:15 PM
Xylenes, Total	ND	0.095		mg/Kg	1	2/5/2024 9:00:15 PM
Surr: 4-Bromofluorobenzene	88.7	39.1-146		%Rec	1	2/5/2024 9:00:15 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	580	60		mg/Kg	20	2/3/2024 5:08:52 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2402008**

13-Feb-24

Client: Vertex Resources Services, Inc.

Project: Cotton Draw 14 Federal Com 1H

Sample ID: **MB-80236**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **80236**	RunNo: **102858**
Prep Date: **2/2/2024**	Analysis Date: **2/3/2024**	SeqNo: **3800520** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-80236**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **80236**	RunNo: **102858**
Prep Date: **2/2/2024**	Analysis Date: **2/3/2024**	SeqNo: **3800521** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.3	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2402008**

13-Feb-24

Client: Vertex Resources Services, Inc.

Project: Cotton Draw 14 Federal Com 1H

Sample ID: **MB-80224**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **80224**	RunNo: **102843**
Prep Date: **2/1/2024**	Analysis Date: **2/2/2024**	SeqNo: **3800103** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	12		10.00		123	61.2	134			

Sample ID: **LCS-80224**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **80224**	RunNo: **102843**
Prep Date: **2/1/2024**	Analysis Date: **2/2/2024**	SeqNo: **3800104** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	6.4		5.000		127	69	147			

Sample ID: **MB-80220**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **80220**	RunNo: **102843**
Prep Date: **2/1/2024**	Analysis Date: **2/2/2024**	SeqNo: **3800108** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		110	61.2	134			

Sample ID: **LCS-80220**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **80220**	RunNo: **102843**
Prep Date: **2/1/2024**	Analysis Date: **2/2/2024**	SeqNo: **3800109** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	59	10	50.00	0	117	61.9	130			
Surr: DNOP	5.9		5.000		119	69	147			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2402008**

13-Feb-24

Client: Vertex Resources Services, Inc.

Project: Cotton Draw 14 Federal Com 1H

Sample ID: **lcs-80203**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **80203**	RunNo: **102873**
Prep Date: **2/1/2024**	Analysis Date: **2/5/2024**	SeqNo: **3800986** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	102	70	130			
Surr: BFB	2100		1000		206	15	244			

Sample ID: **mb-80203**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **80203**	RunNo: **102873**
Prep Date: **2/1/2024**	Analysis Date: **2/5/2024**	SeqNo: **3800987** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	990		1000		99.1	15	244			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2402008**

13-Feb-24

Client: Vertex Resources Services, Inc.

Project: Cotton Draw 14 Federal Com 1H

Sample ID: **LCS-80203**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **80203**	RunNo: **102873**
Prep Date: **2/1/2024**	Analysis Date: **2/5/2024**	SeqNo: **3800993** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.84	0.025	1.000	0	84.4	70	130			
Toluene	0.84	0.050	1.000	0	84.2	70	130			
Ethylbenzene	0.85	0.050	1.000	0	85.4	70	130			
Xylenes, Total	2.6	0.10	3.000	0	85.8	70	130			
Surr: 4-Bromofluorobenzene	0.91		1.000		91.1	39.1	146			

Sample ID: **mb-80203**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **80203**	RunNo: **102873**
Prep Date: **2/1/2024**	Analysis Date: **2/5/2024**	SeqNo: **3800994** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.89		1.000		88.6	39.1	146			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Page 142 of 214

eurofins | Environment Testing

Eurofins Environment Testing South Central, LLC
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Vertex Resources | Work Order Number: 2402008 | RcptNo: 1

Received By: Tracy Casarrubias 2/1/2024 7:30:00 AM

Completed By: Desiree Dominguez 2/1/2024 8:40:49 AM DD

Reviewed By: JH 2-1-24

Chain of Custody

1. Is Chain of Custody complete?	Yes ☐	No ☑	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: JH 2.1.24

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

Mailing address, phone number and Email/Fax are missing on COC- DAD 2/1/24

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.0	Good	Yes	Yogi		

Received by OCD: 6/6/2025 11:49:16 AM

Released to Imaging: 7/16/2025 3:05:38 PM

Chain-of-Custody Record

Client: Vertex / Devon

Mailing Address: On file

Phone #:

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☑ Rush 5 day

Project Name: Cotton Draw 14 Federal Com 1H

Project #: 23E-04453

Project Manager: Kent Stallings

Sampler: SM ZE

On Ice: ☑ Yes ☐ No Yogi

# of Coolers: 1

Cooler Temp(Including CF): 2.0 -0.1 = 2.0 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2402008
1/30/24	14:00	Soil	BH23-05 6'	4oz jar	Ice	-001

Analysis Request

BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
✓	✓					✓			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
1/31/24	1130	Stephen McCoy			1/31/24	1130
1/31/24	1900			Courier	2/1/24	7:30

Remarks: Direct bill to: Devon
W/O #: 211988 16
CC. kstallings@vertexc.ca
smccoy@vertex.ca

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Report to:

Chad Hensley

5796 U.S. Hwy 64
Farmington, NM 87401

Phone: (505) 632-1881
Envirotech-inc.com

envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Vertex Resource Services Inc.

Project Name:	Cottondraw 14 Federal 1H
Work Order:	E412102
Job Number:	01058-0007
Received:	12/13/2024

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
12/17/24

Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.
Statement of Data Authenticity: Envirotech Inc, attests the data reported has not been altered in any way.
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.
Envirotech Inc, holds the Utah TNI certification NM00979 for data reported.
Envirotech Inc, holds the Texas TNI certification T104704557 for data reported.

Date Reported: 12/17/24

Chad Hensley
3101 Boyd Drive
Carlsbad, NM 88220

Project Name: Cottondraw 14 Federal 1H
Workorder: E412102
Date Received: 12/13/2024 8:00:04AM

Chad Hensley,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 12/13/2024 8:00:04AM, under the Project Name: Cottondraw 14 Federal 1H.

The analytical test results summarized in this report with the Project Name: Cottondraw 14 Federal 1H apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues reguarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

Walter Hinchman
Laboratory Director
Office: 505-632-1881
Cell: 775-287-1762
whinchman@envirotech-inc.com

Raina Schwanz
Laboratory Administrator
Office: 505-632-1881
rainaschwanz@envirotech-inc.com

Field Offices:

Southern New Mexico Area

Lynn Jarboe
Laboratory Technical Representative
Office: 505-421-LABS(5227)
Cell: 505-320-4759
ljarboe@envirotech-inc.com

Michelle Gonzales
Client Representative
Office: 505-421-LABS(5227)
Cell: 505-947-8222
mgonzales@envirotech-inc.com

Envirotech Web Address: www.envirotech-inc.com

Table of Contents

Sample Summary

Vertex Resource Services Inc.	Project Name:	Cottondraw 14 Federal 1H	**Reported:**
3101 Boyd Drive	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Chad Hensley	12/17/24 09:13

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
BH24-10 @ 0'	E412102-01A	Soil	12/11/24	12/13/24	Glass Jar, 2 oz.
BH24-10 @ 2'	E412102-02A	Soil	12/11/24	12/13/24	Glass Jar, 2 oz.
BH24-10 @ 4'	E412102-03A	Soil	12/11/24	12/13/24	Glass Jar, 2 oz.
BH24-10 @ 6'	E412102-04A	Soil	12/11/24	12/13/24	Glass Jar, 2 oz.
BH24-11 @ 0'	E412102-05A	Soil	12/11/24	12/13/24	Glass Jar, 2 oz.
BH24-11 @ 2'	E412102-06A	Soil	12/11/24	12/13/24	Glass Jar, 2 oz.
BH24-11 @ 4'	E412102-07A	Soil	12/11/24	12/13/24	Glass Jar, 2 oz.

Sample Data

Vertex Resource Services Inc.	Project Name:	Cottondraw 14 Federal 1H	
3101 Boyd Drive	Project Number:	01058-0007	**Reported:**
Carlsbad NM, 88220	Project Manager:	Chad Hensley	12/17/2024 9:13:39AM

BH24-10 @ 0'

E412102-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: RKS			Batch: 2450127
Benzene	ND	0.0250	1	12/13/24	12/14/24	
Ethylbenzene	ND	0.0250	1	12/13/24	12/14/24	
Toluene	ND	0.0250	1	12/13/24	12/14/24	
o-Xylene	ND	0.0250	1	12/13/24	12/14/24	
p,m-Xylene	ND	0.0500	1	12/13/24	12/14/24	
Total Xylenes	ND	0.0250	1	12/13/24	12/14/24	
Surrogate: 4-Bromochlorobenzene-PID		*85.7 %*	*70-130*	*12/13/24*	*12/14/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2450127
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/13/24	12/14/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*94.3 %*	*70-130*	*12/13/24*	*12/14/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: NV			Batch: 2450134
Diesel Range Organics (C10-C28)	ND	25.0	1	12/13/24	12/14/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/13/24	12/14/24	
Surrogate: n-Nonane		*112 %*	*50-200*	*12/13/24*	*12/14/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT			Batch: 2450125
Chloride	ND	20.0	1	12/13/24	12/14/24	

Sample Data

Vertex Resource Services Inc.	Project Name:	Cottondraw 14 Federal 1H	
3101 Boyd Drive	Project Number:	01058-0007	**Reported:**
Carlsbad NM, 88220	Project Manager:	Chad Hensley	12/17/2024 9:13:39AM

BH24-10 @ 2'

E412102-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: RKS			Batch: 2450127
Benzene	ND	0.0250	1	12/13/24	12/14/24	
Ethylbenzene	ND	0.0250	1	12/13/24	12/14/24	
Toluene	ND	0.0250	1	12/13/24	12/14/24	
o-Xylene	ND	0.0250	1	12/13/24	12/14/24	
p,m-Xylene	ND	0.0500	1	12/13/24	12/14/24	
Total Xylenes	ND	0.0250	1	12/13/24	12/14/24	
Surrogate: 4-Bromochlorobenzene-PID		*86.8 %*	*70-130*	*12/13/24*	*12/14/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2450127
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/13/24	12/14/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*94.8 %*	*70-130*	*12/13/24*	*12/14/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: NV			Batch: 2450134
Diesel Range Organics (C10-C28)	ND	25.0	1	12/13/24	12/14/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/13/24	12/14/24	
Surrogate: n-Nonane		*110 %*	*50-200*	*12/13/24*	*12/14/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT			Batch: 2450125
Chloride	ND	20.0	1	12/13/24	12/14/24	

Sample Data

Vertex Resource Services Inc.	Project Name:	Cottondraw 14 Federal 1H	
3101 Boyd Drive	Project Number:	01058-0007	**Reported:**
Carlsbad NM, 88220	Project Manager:	Chad Hensley	12/17/2024 9:13:39AM

BH24-10 @ 4'

E412102-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: RKS			Batch: 2450127
Benzene	ND	0.0250	1	12/13/24	12/14/24	
Ethylbenzene	ND	0.0250	1	12/13/24	12/14/24	
Toluene	ND	0.0250	1	12/13/24	12/14/24	
o-Xylene	ND	0.0250	1	12/13/24	12/14/24	
p,m-Xylene	ND	0.0500	1	12/13/24	12/14/24	
Total Xylenes	ND	0.0250	1	12/13/24	12/14/24	
Surrogate: 4-Bromochlorobenzene-PID		*85.4 %*	*70-130*	*12/13/24*	*12/14/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2450127
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/13/24	12/14/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*94.6 %*	*70-130*	*12/13/24*	*12/14/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: NV			Batch: 2450134
Diesel Range Organics (C10-C28)	ND	25.0	1	12/13/24	12/14/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/13/24	12/14/24	
Surrogate: n-Nonane		*116 %*	*50-200*	*12/13/24*	*12/14/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT			Batch: 2450125
Chloride	ND	20.0	1	12/13/24	12/14/24	

Sample Data

Vertex Resource Services Inc.	Project Name:	Cottondraw 14 Federal 1H	
3101 Boyd Drive	Project Number:	01058-0007	**Reported:**
Carlsbad NM, 88220	Project Manager:	Chad Hensley	12/17/2024 9:13:39AM

BH24-10 @ 6'

E412102-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: RKS			Batch: 2450127
Benzene	ND	0.0250	1	12/13/24	12/14/24	
Ethylbenzene	ND	0.0250	1	12/13/24	12/14/24	
Toluene	ND	0.0250	1	12/13/24	12/14/24	
o-Xylene	ND	0.0250	1	12/13/24	12/14/24	
p,m-Xylene	ND	0.0500	1	12/13/24	12/14/24	
Total Xylenes	ND	0.0250	1	12/13/24	12/14/24	
Surrogate: 4-Bromochlorobenzene-PID		*87.6 %*	*70-130*	*12/13/24*	*12/14/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2450127
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/13/24	12/14/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*93.3 %*	*70-130*	*12/13/24*	*12/14/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: NV			Batch: 2450134
Diesel Range Organics (C10-C28)	ND	25.0	1	12/13/24	12/14/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/13/24	12/14/24	
Surrogate: n-Nonane		*110 %*	*50-200*	*12/13/24*	*12/14/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT			Batch: 2450125
Chloride	ND	20.0	1	12/13/24	12/14/24	

Sample Data

Vertex Resource Services Inc.	Project Name:	Cottondraw 14 Federal 1H	
3101 Boyd Drive	Project Number:	01058-0007	**Reported:**
Carlsbad NM, 88220	Project Manager:	Chad Hensley	12/17/2024 9:13:39AM

BH24-11 @ 0'

E412102-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: RKS			Batch: 2450127
Benzene	ND	0.0250	1	12/13/24	12/14/24	
Ethylbenzene	ND	0.0250	1	12/13/24	12/14/24	
Toluene	ND	0.0250	1	12/13/24	12/14/24	
o-Xylene	ND	0.0250	1	12/13/24	12/14/24	
p,m-Xylene	ND	0.0500	1	12/13/24	12/14/24	
Total Xylenes	ND	0.0250	1	12/13/24	12/14/24	
Surrogate: 4-Bromochlorobenzene-PID		*86.9 %*	*70-130*	*12/13/24*	*12/14/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2450127
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/13/24	12/14/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*93.8 %*	*70-130*	*12/13/24*	*12/14/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: NV			Batch: 2450134
Diesel Range Organics (C10-C28)	ND	25.0	1	12/13/24	12/14/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/13/24	12/14/24	
Surrogate: n-Nonane		*112 %*	*50-200*	*12/13/24*	*12/14/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT			Batch: 2450125
Chloride	ND	20.0	1	12/13/24	12/14/24	

Sample Data

Vertex Resource Services Inc.	Project Name:	Cottondraw 14 Federal 1H	
3101 Boyd Drive	Project Number:	01058-0007	**Reported:**
Carlsbad NM, 88220	Project Manager:	Chad Hensley	12/17/2024 9:13:39AM

BH24-11 @ 2'

E412102-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: RKS			Batch: 2450127
Benzene	ND	0.0250	1	12/13/24	12/14/24	
Ethylbenzene	ND	0.0250	1	12/13/24	12/14/24	
Toluene	ND	0.0250	1	12/13/24	12/14/24	
o-Xylene	ND	0.0250	1	12/13/24	12/14/24	
p,m-Xylene	ND	0.0500	1	12/13/24	12/14/24	
Total Xylenes	ND	0.0250	1	12/13/24	12/14/24	
Surrogate: 4-Bromochlorobenzene-PID		*87.2 %*	*70-130*	*12/13/24*	*12/14/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2450127
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/13/24	12/14/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*93.1 %*	*70-130*	*12/13/24*	*12/14/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: NV			Batch: 2450134
Diesel Range Organics (C10-C28)	ND	25.0	1	12/13/24	12/14/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/13/24	12/14/24	
Surrogate: n-Nonane		*101 %*	*50-200*	*12/13/24*	*12/14/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT			Batch: 2450125
Chloride	ND	20.0	1	12/13/24	12/14/24	

Sample Data

Vertex Resource Services Inc.	Project Name:	Cottondraw 14 Federal 1H	
3101 Boyd Drive	Project Number:	01058-0007	**Reported:**
Carlsbad NM, 88220	Project Manager:	Chad Hensley	12/17/2024 9:13:39AM

BH24-11 @ 4'

E412102-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: RKS			Batch: 2450127
Benzene	ND	0.0250	1	12/13/24	12/14/24	
Ethylbenzene	ND	0.0250	1	12/13/24	12/14/24	
Toluene	ND	0.0250	1	12/13/24	12/14/24	
o-Xylene	ND	0.0250	1	12/13/24	12/14/24	
p,m-Xylene	ND	0.0500	1	12/13/24	12/14/24	
Total Xylenes	ND	0.0250	1	12/13/24	12/14/24	
Surrogate: 4-Bromochlorobenzene-PID		*86.8 %*	*70-130*	*12/13/24*	*12/14/24*	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: RKS			Batch: 2450127
Gasoline Range Organics (C6-C10)	ND	20.0	1	12/13/24	12/14/24	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*93.9 %*	*70-130*	*12/13/24*	*12/14/24*	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: NV			Batch: 2450134
Diesel Range Organics (C10-C28)	ND	25.0	1	12/13/24	12/14/24	
Oil Range Organics (C28-C36)	ND	50.0	1	12/13/24	12/14/24	
Surrogate: n-Nonane		*112 %*	*50-200*	*12/13/24*	*12/14/24*	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: DT			Batch: 2450125
Chloride	ND	20.0	1	12/13/24	12/14/24	

QC Summary Data

Vertex Resource Services Inc.	Project Name:	Cottondraw 14 Federal 1H	**Reported:**
3101 Boyd Drive	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Chad Hensley	12/17/2024 9:13:39AM

Volatile Organics by EPA 8021B

Analyst: RKS

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2450127-BLK1)									Prepared: 12/13/24 Analyzed: 12/14/24
Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	*6.70*		*8.00*		*83.7*	*70-130*			
LCS (2450127-BS1)									Prepared: 12/13/24 Analyzed: 12/14/24
Benzene	4.85	0.0250	5.00		97.0	70-130			
Ethylbenzene	4.63	0.0250	5.00		92.6	70-130			
Toluene	4.76	0.0250	5.00		95.2	70-130			
o-Xylene	4.62	0.0250	5.00		92.4	70-130			
p,m-Xylene	9.41	0.0500	10.0		94.1	70-130			
Total Xylenes	14.0	0.0250	15.0		93.6	70-130			
Surrogate: 4-Bromochlorobenzene-PID	*6.80*		*8.00*		*85.0*	*70-130*			
LCS Dup (2450127-BSD1)									Prepared: 12/13/24 Analyzed: 12/14/24
Benzene	4.91	0.0250	5.00		98.2	70-130	1.17	20	
Ethylbenzene	4.70	0.0250	5.00		93.9	70-130	1.37	20	
Toluene	4.81	0.0250	5.00		96.3	70-130	1.17	20	
o-Xylene	4.68	0.0250	5.00		93.6	70-130	1.23	20	
p,m-Xylene	9.54	0.0500	10.0		95.4	70-130	1.31	20	
Total Xylenes	14.2	0.0250	15.0		94.8	70-130	1.28	20	
Surrogate: 4-Bromochlorobenzene-PID	*6.81*		*8.00*		*85.1*	*70-130*			

QC Summary Data

Vertex Resource Services Inc.	Project Name:	Cottondraw 14 Federal 1H	**Reported:**
3101 Boyd Drive	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Chad Hensley	12/17/2024 9:13:39AM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: RKS

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2450127-BLK1)									Prepared: 12/13/24 Analyzed: 12/14/24
Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.56*		*8.00*		*94.5*	*70-130*			
LCS (2450127-BS2)									Prepared: 12/13/24 Analyzed: 12/14/24
Gasoline Range Organics (C6-C10)	41.8	20.0	50.0		83.6	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.63*		*8.00*		*95.4*	*70-130*			
LCS Dup (2450127-BSD2)									Prepared: 12/13/24 Analyzed: 12/14/24
Gasoline Range Organics (C6-C10)	40.8	20.0	50.0		81.5	70-130	2.54	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.68*		*8.00*		*96.0*	*70-130*			

QC Summary Data

Vertex Resource Services Inc.	Project Name:	Cottondraw 14 Federal 1H	**Reported:**
3101 Boyd Drive	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Chad Hensley	12/17/2024 9:13:39AM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: NV

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2450134-BLK1)									Prepared: 12/13/24 Analyzed: 12/14/24
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	*55.2*		*50.0*		*110*	*50-200*			
LCS (2450134-BS1)									Prepared: 12/13/24 Analyzed: 12/14/24
Diesel Range Organics (C10-C28)	264	25.0	250		105	38-132			
Surrogate: n-Nonane	*55.8*		*50.0*		*112*	*50-200*			
Matrix Spike (2450134-MS1)				**Source: E412104-03**					Prepared: 12/13/24 Analyzed: 12/14/24
Diesel Range Organics (C10-C28)	277	25.0	250	ND	111	38-132			
Surrogate: n-Nonane	*57.0*		*50.0*		*114*	*50-200*			
Matrix Spike Dup (2450134-MSD1)				**Source: E412104-03**					Prepared: 12/13/24 Analyzed: 12/14/24
Diesel Range Organics (C10-C28)	278	25.0	250	ND	111	38-132	0.150	20	
Surrogate: n-Nonane	*58.3*		*50.0*		*117*	*50-200*			

QC Summary Data

Vertex Resource Services Inc.	Project Name:	Cottondraw 14 Federal 1H	**Reported:**
3101 Boyd Drive	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Chad Hensley	12/17/2024 9:13:39AM

Anions by EPA 300.0/9056A

Analyst: DT

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2450125-BLK1)									Prepared: 12/13/24 Analyzed: 12/14/24
Chloride	ND	20.0							
LCS (2450125-BS1)									Prepared: 12/13/24 Analyzed: 12/14/24
Chloride	250	20.0	250		100	90-110			
LCS Dup (2450125-BSD1)									Prepared: 12/13/24 Analyzed: 12/14/24
Chloride	250	20.0	250		100	90-110	0.141	20	

QC Summary Report Comment:
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

Definitions and Notes

Vertex Resource Services Inc.	Project Name:	Cottondraw 14 Federal 1H	
3101 Boyd Drive	Project Number:	01058-0007	**Reported:**
Carlsbad NM, 88220	Project Manager:	Chad Hensley	12/17/24 09:13

ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
RPD	Relative Percent Difference
DNI	Did Not Ignite
DNR	Did not react with the addition of acid or base.

Note (1): Methods marked with ** are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.

Released to Imaging: 7/16/2025 3:05:38 PM
Received by OCD: 6/6/2025 11:49:16 AM

Chain of Custody

Client Information	Invoice Information	Lab Use Only	TAT	State
Client: Vertex (Bill to Devon)	Company: Devon Energy	Lab WO# E412102	Job Number 01058.0007	1D 2D 3D Std: 3D ✓	NM ✓ CO UT TX
Project Name: Cottonwood 14 Federal LH	Address:			
Project Manager: Chad Hensley	City, State, Zip:			
Address:	Phone:			
City, State, Zip:	Email:			
Phone:	Miscellaneous:			
Email: CHensley@vertexresource.com, BTloggler@vertexresource.com				

Analysis and Method

EPA Program

SDWA | CWA | RCRA

Compliance Y or N

PWSID #

Sample Information

Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Field Filter	Lab Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Chloride 300.0	BGDOC - NM	TCEQ 1005 - TX	RCRA 8 Metals	Remarks
9:00	12/11/24	Soil	1	BH24-10 @ 0'		1	X	X	X		X				
9:30				10 @ 2'		2									
9:40				10 @ 4'		3									
9:55				10 @ 6'		4									
10:00				11 @ 0'		5									
10:30				11 @ 2'		6									
11:10				11 @ 4'		7									

Additional Instructions: WO# 21198816

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: _____

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	12.11.24	1700	Michelle Gonzales	12-11-24	1700
Michelle Gonzales	12.12.24	1615		12.12.24	1612
	12.12.24	2245		12.13.24	800

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6C on subsequent days.

Lab Use Only

Received on ice: (Y) N

T1 _____ T2 _____ T3 _____

AVG Temp °C 4

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other _____

Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

Note: Samples are discarded 14 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

envirotech

Envirotech Analytical Laboratory

Printed: 12/13/2024 10:56:08AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.
If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	Vertex Resource Services Inc.	Date Received:	12/13/24 08:00	Work Order ID:	E412102
Phone:	(575) 748-0176	Date Logged In:	12/12/24 15:18	Logged In By:	Noe Soto
Email:	chensley@vertexresources.com	Due Date:	12/17/24 17:00 (2 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC?	Yes	
2. Does the number of samples per sampling site location match the COC	Yes	
3. Were samples dropped off by client or carrier?	Yes	Carrier: Courier
4. Was the COC complete, i.e., signatures, dates/times, requested analyses?	Yes	
5. Were all samples received within holding time? Note: Analysis, such as pH which should be conducted in the field, i.e, 15 minute hold time, are not included in this disucssion.	Yes	

Sample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT?	Yes	

Sample Cooler

7. Was a sample cooler received?	Yes	
8. If yes, was cooler received in good condition?	Yes	
9. Was the sample(s) received intact, i.e., not broken?	Yes	
10. Were custody/security seals present?	No	
11. If yes, were custody/security seals intact?	NA	
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling	Yes	
13. If no visible ice, record the temperature. Actual sample temperature: 4°C		

Sample Container

14. Are aqueous VOC samples present?	No	
15. Are VOC samples collected in VOA Vials?	NA	
16. Is the head space less than 6-8 mm (pea sized or less)?	NA	
17. Was a trip blank (TB) included for VOC analyses?	NA	
18. Are non-VOC samples collected in the correct containers?	Yes	
19. Is the appropriate volume/weight or number of sample containers collected?	Yes	

Field Label

20. Were field sample labels filled out with the minimum information:		
Sample ID?	Yes	
Date/Time Collected?	Yes	
Collectors name?	No	

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved?	No	
22. Are sample(s) correctly preserved?	NA	
24. Is lab filteration required and/or requested for dissolved metals?	No	

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase?	No	
27. If yes, does the COC specify which phase(s) is to be analyzed?	NA	

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory?	No	
29. Was a subcontract laboratory specified by the client and if so who?	NA	Subcontract Lab: NA

Comments/Resolution

Sampled by name is missing on COC by client.

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

Date

envirotech Inc.

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Kent Stallings
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 2/18/2025 2:39:05 PM

JOB DESCRIPTION

Cottondraw 14 Fed Com 1H

JOB NUMBER

885-19592-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Released to Imaging: 7/16/2025 3:05:58 PM

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization

Generated
2/18/2025 2:39:05 PM

Authorized for release by
Andy Freeman, Business Unit Manager
andy.freeman@et.eurofinsus.com
(505)345-3975

Client: Vertex
Project/Site: Cottondraw 14 Fed Com 1H

Laboratory Job ID: 885-19592-1

Table of Contents

Definitions/Glossary

Client: Vertex Job ID: 885-19592-1
Project/Site: Cottondraw 14 Fed Com 1H

Qualifiers

GC VOA

Qualifier	Qualifier Description
F2	MS/MSD RPD exceeds control limits
S1+	Surrogate recovery exceeds control limits, high biased.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Vertex
Project: Cottondraw 14 Fed Com 1H

Job ID: 885-19592-1

Job ID: 885-19592-1 Eurofins Albuquerque

Job Narrative
885-19592-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 2/8/2025 8:05 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.6°C.

Receipt Exceptions
For the samples below the sample collection time on the bottles was used for the collection time on the COC:
BS25-01 @ 0' (885-19592-1), BS25-02 @ 0' (885-19592-2), BS25-03 @ 0' (885-19592-3), BS25-04 @ 0' (885-19592-4), BS25-05 @ 0' (885-19592-5), BS25-06 @ 0' (885-19592-6), BS25-07 @ 0' (885-19592-7) and BS25-08 @ 0' (885-19592-8)

Gasoline Range Organics
Method 8015D_GRO: Analyst error. MS was spiked incorrectly and the RPD is elevated due to spike amount.
(885-19592-A-1-B MS) and (885-19592-A-1-C MSD)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Vertex
Project/Site: Cottondraw 14 Fed Com 1H

Job ID: 885-19592-1

Client Sample ID: BS25-01 @ 0'

Date Collected: 02/06/25 09:30
Date Received: 02/08/25 08:05

Lab Sample ID: 885-19592-1

Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND	F2	5.0		mg/Kg		02/10/25 15:27	02/13/25 13:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*35 - 166*	*02/10/25 15:27*	*02/13/25 13:28*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		02/10/25 15:27	02/13/25 13:28	1
Ethylbenzene	ND		0.050		mg/Kg		02/10/25 15:27	02/13/25 13:28	1
Toluene	ND		0.050		mg/Kg		02/10/25 15:27	02/13/25 13:28	1
Xylenes, Total	ND		0.099		mg/Kg		02/10/25 15:27	02/13/25 13:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*48 - 145*	*02/10/25 15:27*	*02/13/25 13:28*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.4		mg/Kg		02/12/25 08:00	02/12/25 09:49	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		02/12/25 08:00	02/12/25 09:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*91*		*62 - 134*	*02/12/25 08:00*	*02/12/25 09:49*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**150**		60		mg/Kg		02/11/25 08:11	02/11/25 15:24	20

Client Sample Results

Client: Vertex
Project/Site: Cottondraw 14 Fed Com 1H

Job ID: 885-19592-1

Client Sample ID: BS25-02 @ 0'

Date Collected: 02/06/25 09:42
Date Received: 02/08/25 08:05

Lab Sample ID: 885-19592-2

Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		5.0		mg/Kg		02/10/25 15:27	02/13/25 14:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*35 - 166*	*02/10/25 15:27*	*02/13/25 14:35*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		02/10/25 15:27	02/13/25 14:35	1
Ethylbenzene	ND		0.050		mg/Kg		02/10/25 15:27	02/13/25 14:35	1
Toluene	ND		0.050		mg/Kg		02/10/25 15:27	02/13/25 14:35	1
Xylenes, Total	ND		0.10		mg/Kg		02/10/25 15:27	02/13/25 14:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*48 - 145*	*02/10/25 15:27*	*02/13/25 14:35*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**10**		9.3		mg/Kg		02/12/25 08:00	02/12/25 10:21	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		02/12/25 08:00	02/12/25 10:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*93*		*62 - 134*	*02/12/25 08:00*	*02/12/25 10:21*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1000**		60		mg/Kg		02/11/25 08:11	02/11/25 15:34	20

Client Sample Results

Client: Vertex
Project/Site: Cottondraw 14 Fed Com 1H

Job ID: 885-19592-1

Client Sample ID: BS25-03 @ 0'

Date Collected: 02/06/25 09:50
Date Received: 02/08/25 08:05

Lab Sample ID: 885-19592-3

Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		5.0		mg/Kg		02/10/25 15:28	02/13/25 15:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*35 - 166*	*02/10/25 15:28*	*02/13/25 15:41*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		02/10/25 15:28	02/13/25 15:41	1
Ethylbenzene	ND		0.050		mg/Kg		02/10/25 15:28	02/13/25 15:41	1
Toluene	ND		0.050		mg/Kg		02/10/25 15:28	02/13/25 15:41	1
Xylenes, Total	ND		0.10		mg/Kg		02/10/25 15:28	02/13/25 15:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*48 - 145*	*02/10/25 15:28*	*02/13/25 15:41*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**12**		9.7		mg/Kg		02/12/25 08:00	02/12/25 10:42	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		02/12/25 08:00	02/12/25 10:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*91*		*62 - 134*	*02/12/25 08:00*	*02/12/25 10:42*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1900**		60		mg/Kg		02/11/25 08:11	02/11/25 15:44	20

Client Sample Results

Client: Vertex
Project/Site: Cottondraw 14 Fed Com 1H

Job ID: 885-19592-1

Client Sample ID: BS25-04 @ 0'

Date Collected: 02/06/25 10:06
Date Received: 02/08/25 08:05

Lab Sample ID: 885-19592-4

Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		5.0		mg/Kg		02/10/25 15:28	02/13/25 16:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*35 - 166*	*02/10/25 15:28*	*02/13/25 16:59*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		02/10/25 15:28	02/13/25 16:59	1
Ethylbenzene	ND		0.050		mg/Kg		02/10/25 15:28	02/13/25 16:59	1
Toluene	ND		0.050		mg/Kg		02/10/25 15:28	02/13/25 16:59	1
Xylenes, Total	ND		0.10		mg/Kg		02/10/25 15:28	02/13/25 16:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*48 - 145*	*02/10/25 15:28*	*02/13/25 16:59*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.7		mg/Kg		02/12/25 08:00	02/12/25 10:53	1
Motor Oil Range Organics [C28-C40]	ND		49		mg/Kg		02/12/25 08:00	02/12/25 10:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*93*		*62 - 134*	*02/12/25 08:00*	*02/12/25 10:53*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1000**		60		mg/Kg		02/11/25 08:11	02/11/25 15:54	20

Client Sample Results

Client: Vertex
Project/Site: Cottondraw 14 Fed Com 1H

Job ID: 885-19592-1

Client Sample ID: BS25-05 @ 0'

Date Collected: 02/06/25 10:15
Date Received: 02/08/25 08:05

Lab Sample ID: 885-19592-5

Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.9		mg/Kg		02/10/25 15:28	02/13/25 17:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*35 - 166*	*02/10/25 15:28*	*02/13/25 17:21*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		02/10/25 15:28	02/13/25 17:21	1
Ethylbenzene	ND		0.049		mg/Kg		02/10/25 15:28	02/13/25 17:21	1
Toluene	ND		0.049		mg/Kg		02/10/25 15:28	02/13/25 17:21	1
Xylenes, Total	ND		0.098		mg/Kg		02/10/25 15:28	02/13/25 17:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*48 - 145*	*02/10/25 15:28*	*02/13/25 17:21*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**22**		9.9		mg/Kg		02/12/25 08:00	02/12/25 11:03	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		02/12/25 08:00	02/12/25 11:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*91*		*62 - 134*	*02/12/25 08:00*	*02/12/25 11:03*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2600**		150		mg/Kg		02/11/25 08:11	02/12/25 11:27	50

Client Sample Results

Client: Vertex
Project/Site: Cottondraw 14 Fed Com 1H

Job ID: 885-19592-1

Client Sample ID: BS25-06 @ 0'

Date Collected: 02/06/25 10:28
Date Received: 02/08/25 08:05

Lab Sample ID: 885-19592-6

Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.7		mg/Kg		02/10/25 15:28	02/13/25 17:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*35 - 166*	*02/10/25 15:28*	*02/13/25 17:43*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		02/10/25 15:28	02/13/25 17:43	1
Ethylbenzene	ND		0.047		mg/Kg		02/10/25 15:28	02/13/25 17:43	1
Toluene	ND		0.047		mg/Kg		02/10/25 15:28	02/13/25 17:43	1
Xylenes, Total	ND		0.094		mg/Kg		02/10/25 15:28	02/13/25 17:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*48 - 145*	*02/10/25 15:28*	*02/13/25 17:43*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**35**		9.3		mg/Kg		02/12/25 08:00	02/12/25 11:14	1
Motor Oil Range Organics [C28-C40]	**54**		47		mg/Kg		02/12/25 08:00	02/12/25 11:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*96*		*62 - 134*	*02/12/25 08:00*	*02/12/25 11:14*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1300**		60		mg/Kg		02/11/25 08:11	02/11/25 16:14	20

Client Sample Results

Client: Vertex
Project/Site: Cottondraw 14 Fed Com 1H

Job ID: 885-19592-1

Client Sample ID: BS25-07 @ 0'

Date Collected: 02/06/25 10:39
Date Received: 02/08/25 08:05

Lab Sample ID: 885-19592-7

Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.8		mg/Kg		02/10/25 15:28	02/13/25 18:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*35 - 166*	*02/10/25 15:28*	*02/13/25 18:04*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		02/10/25 15:28	02/13/25 18:04	1
Ethylbenzene	ND		0.048		mg/Kg		02/10/25 15:28	02/13/25 18:04	1
Toluene	ND		0.048		mg/Kg		02/10/25 15:28	02/13/25 18:04	1
Xylenes, Total	ND		0.096		mg/Kg		02/10/25 15:28	02/13/25 18:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*48 - 145*	*02/10/25 15:28*	*02/13/25 18:04*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**43**		10		mg/Kg		02/12/25 08:00	02/12/25 11:25	1
Motor Oil Range Organics [C28-C40]	**83**		50		mg/Kg		02/12/25 08:00	02/12/25 11:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*96*		*62 - 134*	*02/12/25 08:00*	*02/12/25 11:25*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**380**		60		mg/Kg		02/11/25 08:11	02/11/25 16:43	20

Client Sample Results

Client: Vertex
Project/Site: Cottondraw 14 Fed Com 1H

Job ID: 885-19592-1

Client Sample ID: BS25-08 @ 0'

Date Collected: 02/06/25 10:50
Date Received: 02/08/25 08:05

Lab Sample ID: 885-19592-8

Matrix: Solid

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		5.0		mg/Kg		02/10/25 15:28	02/13/25 18:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*35 - 166*	*02/10/25 15:28*	*02/13/25 18:26*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		02/10/25 15:28	02/13/25 18:26	1
Ethylbenzene	ND		0.050		mg/Kg		02/10/25 15:28	02/13/25 18:26	1
Toluene	ND		0.050		mg/Kg		02/10/25 15:28	02/13/25 18:26	1
Xylenes, Total	ND		0.10		mg/Kg		02/10/25 15:28	02/13/25 18:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*48 - 145*	*02/10/25 15:28*	*02/13/25 18:26*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**21**		9.6		mg/Kg		02/12/25 08:00	02/12/25 11:36	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		02/12/25 08:00	02/12/25 11:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*95*		*62 - 134*	*02/12/25 08:00*	*02/12/25 11:36*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**90**		60		mg/Kg		02/11/25 08:11	02/11/25 16:53	20

QC Sample Results

Client: Vertex
Project/Site: Cottondraw 14 Fed Com 1H

Job ID: 885-19592-1

Method: 8015M/D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-20578/1-A
Matrix: Solid
Analysis Batch: 20756

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20578

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		5.0		mg/Kg		02/10/25 15:27	02/13/25 13:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*35 - 166*	*02/10/25 15:27*	*02/13/25 13:06*	*1*

Lab Sample ID: LCS 885-20578/2-A
Matrix: Solid
Analysis Batch: 20756

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20578

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			25.0	23.3		mg/Kg		93	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*208*		*35 - 166*

Lab Sample ID: 885-19592-1 MS
Matrix: Solid
Analysis Batch: 20756

Client Sample ID: BS25-01 @ 0'
Prep Type: Total/NA
Prep Batch: 20578

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	ND	F2	49.7	37.9		mg/Kg		76	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*208*	*S1+*	*35 - 166*

Lab Sample ID: 885-19592-1 MSD
Matrix: Solid
Analysis Batch: 20756

Client Sample ID: BS25-01 @ 0'
Prep Type: Total/NA
Prep Batch: 20578

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	ND	F2	24.9	19.9	F2	mg/Kg		80	70 - 130	62	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*202*	*S1+*	*35 - 166*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-20578/1-A
Matrix: Solid
Analysis Batch: 20757

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20578

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		02/10/25 15:27	02/13/25 13:06	1
Ethylbenzene	ND		0.050		mg/Kg		02/10/25 15:27	02/13/25 13:06	1
Toluene	ND		0.050		mg/Kg		02/10/25 15:27	02/13/25 13:06	1

QC Sample Results

Client: Vertex
Project/Site: Cottondraw 14 Fed Com 1H

Job ID: 885-19592-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: MB 885-20578/1-A
Matrix: Solid
Analysis Batch: 20757

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20578

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.10		mg/Kg		02/10/25 15:27	02/13/25 13:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*48 - 145*	*02/10/25 15:27*	*02/13/25 13:06*	*1*

Lab Sample ID: LCS 885-20578/3-A
Matrix: Solid
Analysis Batch: 20757

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20578

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	1.06		mg/Kg		106	70 - 130		
Ethylbenzene			1.00	1.05		mg/Kg		105	70 - 130		
m-Xylene & p-Xylene			2.00	2.13		mg/Kg		107	70 - 130		
o-Xylene			1.00	1.04		mg/Kg		104	70 - 130		
Toluene			1.00	1.05		mg/Kg		105	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*48 - 145*

Lab Sample ID: 885-19592-2 MS
Matrix: Solid
Analysis Batch: 20757

Client Sample ID: BS25-02 @ 0'
Prep Type: Total/NA
Prep Batch: 20578

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	ND		0.995	0.833		mg/Kg		84	70 - 130		
Ethylbenzene	ND		0.995	0.844		mg/Kg		85	70 - 130		
m-Xylene & p-Xylene	ND		1.99	1.67		mg/Kg		84	70 - 130		
o-Xylene	ND		0.995	0.835		mg/Kg		84	70 - 130		
Toluene	ND		0.995	0.829		mg/Kg		83	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*48 - 145*

Lab Sample ID: 885-19592-2 MSD
Matrix: Solid
Analysis Batch: 20757

Client Sample ID: BS25-02 @ 0'
Prep Type: Total/NA
Prep Batch: 20578

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	ND		0.996	0.939		mg/Kg		94	70 - 130	12	20
Ethylbenzene	ND		0.996	0.942		mg/Kg		95	70 - 130	11	20
m-Xylene & p-Xylene	ND		1.99	1.90		mg/Kg		96	70 - 130	13	20
o-Xylene	ND		0.996	0.942		mg/Kg		95	70 - 130	12	20
Toluene	ND		0.996	0.939		mg/Kg		94	70 - 130	13	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*48 - 145*

QC Sample Results

Client: Vertex
Project/Site: Cottondraw 14 Fed Com 1H

Job ID: 885-19592-1

Method: 8015M/D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 885-20672/1-A
Matrix: Solid
Analysis Batch: 20669

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20672

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		02/12/25 08:00	02/12/25 09:28	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		02/12/25 08:00	02/12/25 09:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*88*		*62 - 134*	*02/12/25 08:00*	*02/12/25 09:28*	*1*

Lab Sample ID: LCS 885-20672/2-A
Matrix: Solid
Analysis Batch: 20669

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20672

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	50.3		mg/Kg		101	60 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*94*		*62 - 134*

Lab Sample ID: 885-19592-1 MS
Matrix: Solid
Analysis Batch: 20669

Client Sample ID: BS25-01 @ 0'
Prep Type: Total/NA
Prep Batch: 20672

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]	ND		46.7	42.4		mg/Kg		91	44 - 136		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*100*		*62 - 134*

Lab Sample ID: 885-19592-1 MSD
Matrix: Solid
Analysis Batch: 20669

Client Sample ID: BS25-01 @ 0'
Prep Type: Total/NA
Prep Batch: 20672

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]	ND		49.2	41.3		mg/Kg		84	44 - 136	3	32

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*100*		*62 - 134*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-20592/1-A
Matrix: Solid
Analysis Batch: 20610

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20592

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		02/11/25 08:11	02/11/25 10:36	1

QC Sample Results

Client: Vertex
Project/Site: Cottondraw 14 Fed Com 1H

Job ID: 885-19592-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 885-20592/2-A
Matrix: Solid
Analysis Batch: 20610

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20592

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	30.0	29.4		mg/Kg		98	90 - 110

Lab Sample ID: MRL 885-20670/3
Matrix: Solid
Analysis Batch: 20670

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	0.500	0.545		mg/L		109	50 - 150

QC Association Summary

Client: Vertex
Project/Site: Cottondraw 14 Fed Com 1H

Job ID: 885-19592-1

GC VOA

Prep Batch: 20578

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-19592-1	BS25-01 @ 0'	Total/NA	Solid	5030C	
885-19592-2	BS25-02 @ 0'	Total/NA	Solid	5030C	
885-19592-3	BS25-03 @ 0'	Total/NA	Solid	5030C	
885-19592-4	BS25-04 @ 0'	Total/NA	Solid	5030C	
885-19592-5	BS25-05 @ 0'	Total/NA	Solid	5030C	
885-19592-6	BS25-06 @ 0'	Total/NA	Solid	5030C	
885-19592-7	BS25-07 @ 0'	Total/NA	Solid	5030C	
885-19592-8	BS25-08 @ 0'	Total/NA	Solid	5030C	
MB 885-20578/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-20578/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-20578/3-A	Lab Control Sample	Total/NA	Solid	5030C	
885-19592-1 MS	BS25-01 @ 0'	Total/NA	Solid	5030C	
885-19592-1 MSD	BS25-01 @ 0'	Total/NA	Solid	5030C	
885-19592-2 MS	BS25-02 @ 0'	Total/NA	Solid	5030C	
885-19592-2 MSD	BS25-02 @ 0'	Total/NA	Solid	5030C	

Analysis Batch: 20756

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-19592-1	BS25-01 @ 0'	Total/NA	Solid	8015M/D	20578
885-19592-2	BS25-02 @ 0'	Total/NA	Solid	8015M/D	20578
885-19592-3	BS25-03 @ 0'	Total/NA	Solid	8015M/D	20578
885-19592-4	BS25-04 @ 0'	Total/NA	Solid	8015M/D	20578
885-19592-5	BS25-05 @ 0'	Total/NA	Solid	8015M/D	20578
885-19592-6	BS25-06 @ 0'	Total/NA	Solid	8015M/D	20578
885-19592-7	BS25-07 @ 0'	Total/NA	Solid	8015M/D	20578
885-19592-8	BS25-08 @ 0'	Total/NA	Solid	8015M/D	20578
MB 885-20578/1-A	Method Blank	Total/NA	Solid	8015M/D	20578
LCS 885-20578/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	20578
885-19592-1 MS	BS25-01 @ 0'	Total/NA	Solid	8015M/D	20578
885-19592-1 MSD	BS25-01 @ 0'	Total/NA	Solid	8015M/D	20578

Analysis Batch: 20757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-19592-1	BS25-01 @ 0'	Total/NA	Solid	8021B	20578
885-19592-2	BS25-02 @ 0'	Total/NA	Solid	8021B	20578
885-19592-3	BS25-03 @ 0'	Total/NA	Solid	8021B	20578
885-19592-4	BS25-04 @ 0'	Total/NA	Solid	8021B	20578
885-19592-5	BS25-05 @ 0'	Total/NA	Solid	8021B	20578
885-19592-6	BS25-06 @ 0'	Total/NA	Solid	8021B	20578
885-19592-7	BS25-07 @ 0'	Total/NA	Solid	8021B	20578
885-19592-8	BS25-08 @ 0'	Total/NA	Solid	8021B	20578
MB 885-20578/1-A	Method Blank	Total/NA	Solid	8021B	20578
LCS 885-20578/3-A	Lab Control Sample	Total/NA	Solid	8021B	20578
885-19592-2 MS	BS25-02 @ 0'	Total/NA	Solid	8021B	20578
885-19592-2 MSD	BS25-02 @ 0'	Total/NA	Solid	8021B	20578

GC Semi VOA

Analysis Batch: 20669

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-19592-1	BS25-01 @ 0'	Total/NA	Solid	8015M/D	20672

QC Association Summary

Client: Vertex
Project/Site: Cottondraw 14 Fed Com 1H

Job ID: 885-19592-1

GC Semi VOA (Continued)

Analysis Batch: 20669 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-19592-2	BS25-02 @ 0'	Total/NA	Solid	8015M/D	20672
885-19592-3	BS25-03 @ 0'	Total/NA	Solid	8015M/D	20672
885-19592-4	BS25-04 @ 0'	Total/NA	Solid	8015M/D	20672
885-19592-5	BS25-05 @ 0'	Total/NA	Solid	8015M/D	20672
885-19592-6	BS25-06 @ 0'	Total/NA	Solid	8015M/D	20672
885-19592-7	BS25-07 @ 0'	Total/NA	Solid	8015M/D	20672
885-19592-8	BS25-08 @ 0'	Total/NA	Solid	8015M/D	20672
MB 885-20672/1-A	Method Blank	Total/NA	Solid	8015M/D	20672
LCS 885-20672/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	20672
885-19592-1 MS	BS25-01 @ 0'	Total/NA	Solid	8015M/D	20672
885-19592-1 MSD	BS25-01 @ 0'	Total/NA	Solid	8015M/D	20672

Prep Batch: 20672

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-19592-1	BS25-01 @ 0'	Total/NA	Solid	SHAKE	
885-19592-2	BS25-02 @ 0'	Total/NA	Solid	SHAKE	
885-19592-3	BS25-03 @ 0'	Total/NA	Solid	SHAKE	
885-19592-4	BS25-04 @ 0'	Total/NA	Solid	SHAKE	
885-19592-5	BS25-05 @ 0'	Total/NA	Solid	SHAKE	
885-19592-6	BS25-06 @ 0'	Total/NA	Solid	SHAKE	
885-19592-7	BS25-07 @ 0'	Total/NA	Solid	SHAKE	
885-19592-8	BS25-08 @ 0'	Total/NA	Solid	SHAKE	
MB 885-20672/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-20672/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
885-19592-1 MS	BS25-01 @ 0'	Total/NA	Solid	SHAKE	
885-19592-1 MSD	BS25-01 @ 0'	Total/NA	Solid	SHAKE	

HPLC/IC

Prep Batch: 20592

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-19592-1	BS25-01 @ 0'	Total/NA	Solid	300_Prep	
885-19592-2	BS25-02 @ 0'	Total/NA	Solid	300_Prep	
885-19592-3	BS25-03 @ 0'	Total/NA	Solid	300_Prep	
885-19592-4	BS25-04 @ 0'	Total/NA	Solid	300_Prep	
885-19592-5	BS25-05 @ 0'	Total/NA	Solid	300_Prep	
885-19592-6	BS25-06 @ 0'	Total/NA	Solid	300_Prep	
885-19592-7	BS25-07 @ 0'	Total/NA	Solid	300_Prep	
885-19592-8	BS25-08 @ 0'	Total/NA	Solid	300_Prep	
MB 885-20592/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-20592/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 20610

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-19592-1	BS25-01 @ 0'	Total/NA	Solid	300.0	20592
885-19592-2	BS25-02 @ 0'	Total/NA	Solid	300.0	20592
885-19592-3	BS25-03 @ 0'	Total/NA	Solid	300.0	20592
885-19592-4	BS25-04 @ 0'	Total/NA	Solid	300.0	20592
885-19592-6	BS25-06 @ 0'	Total/NA	Solid	300.0	20592
885-19592-7	BS25-07 @ 0'	Total/NA	Solid	300.0	20592
885-19592-8	BS25-08 @ 0'	Total/NA	Solid	300.0	20592

QC Association Summary

Client: Vertex
Project/Site: Cottondraw 14 Fed Com 1H

Job ID: 885-19592-1

HPLC/IC (Continued)

Analysis Batch: 20610 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 885-20592/1-A	Method Blank	Total/NA	Solid	300.0	20592
LCS 885-20592/2-A	Lab Control Sample	Total/NA	Solid	300.0	20592

Analysis Batch: 20670

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-19592-5	BS25-05 @ 0'	Total/NA	Solid	300.0	20592
MRL 885-20670/3	Lab Control Sample	Total/NA	Solid	300.0	

Lab Chronicle

Client: Vertex
Project/Site: Cottondraw 14 Fed Com 1H

Job ID: 885-19592-1

Client Sample ID: BS25-01 @ 0'
Date Collected: 02/06/25 09:30
Date Received: 02/08/25 08:05

Lab Sample ID: 885-19592-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			20578	AT	EET ALB	02/10/25 15:27
Total/NA	Analysis	8015M/D		1	20756	AT	EET ALB	02/13/25 13:28
Total/NA	Prep	5030C			20578	AT	EET ALB	02/10/25 15:27
Total/NA	Analysis	8021B		1	20757	AT	EET ALB	02/13/25 13:28
Total/NA	Prep	SHAKE			20672	MI	EET ALB	02/12/25 08:00
Total/NA	Analysis	8015M/D		1	20669	MI	EET ALB	02/12/25 09:49
Total/NA	Prep	300_Prep			20592	DL	EET ALB	02/11/25 08:11
Total/NA	Analysis	300.0		20	20610	DL	EET ALB	02/11/25 15:24

Client Sample ID: BS25-02 @ 0'
Date Collected: 02/06/25 09:42
Date Received: 02/08/25 08:05

Lab Sample ID: 885-19592-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			20578	AT	EET ALB	02/10/25 15:27
Total/NA	Analysis	8015M/D		1	20756	AT	EET ALB	02/13/25 14:35
Total/NA	Prep	5030C			20578	AT	EET ALB	02/10/25 15:27
Total/NA	Analysis	8021B		1	20757	AT	EET ALB	02/13/25 14:35
Total/NA	Prep	SHAKE			20672	MI	EET ALB	02/12/25 08:00
Total/NA	Analysis	8015M/D		1	20669	MI	EET ALB	02/12/25 10:21
Total/NA	Prep	300_Prep			20592	DL	EET ALB	02/11/25 08:11
Total/NA	Analysis	300.0		20	20610	DL	EET ALB	02/11/25 15:34

Client Sample ID: BS25-03 @ 0'
Date Collected: 02/06/25 09:50
Date Received: 02/08/25 08:05

Lab Sample ID: 885-19592-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			20578	AT	EET ALB	02/10/25 15:28
Total/NA	Analysis	8015M/D		1	20756	AT	EET ALB	02/13/25 15:41
Total/NA	Prep	5030C			20578	AT	EET ALB	02/10/25 15:28
Total/NA	Analysis	8021B		1	20757	AT	EET ALB	02/13/25 15:41
Total/NA	Prep	SHAKE			20672	MI	EET ALB	02/12/25 08:00
Total/NA	Analysis	8015M/D		1	20669	MI	EET ALB	02/12/25 10:42
Total/NA	Prep	300_Prep			20592	DL	EET ALB	02/11/25 08:11
Total/NA	Analysis	300.0		20	20610	DL	EET ALB	02/11/25 15:44

Client Sample ID: BS25-04 @ 0'
Date Collected: 02/06/25 10:06
Date Received: 02/08/25 08:05

Lab Sample ID: 885-19592-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			20578	AT	EET ALB	02/10/25 15:28
Total/NA	Analysis	8015M/D		1	20756	AT	EET ALB	02/13/25 16:59

Lab Chronicle

Client: Vertex
Job ID: 885-19592-1
Project/Site: Cottondraw 14 Fed Com 1H

Client Sample ID: BS25-04 @ 0'
Lab Sample ID: 885-19592-4
Date Collected: 02/06/25 10:06
Matrix: Solid
Date Received: 02/08/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			20578	AT	EET ALB	02/10/25 15:28
Total/NA	Analysis	8021B		1	20757	AT	EET ALB	02/13/25 16:59
Total/NA	Prep	SHAKE			20672	MI	EET ALB	02/12/25 08:00
Total/NA	Analysis	8015M/D		1	20669	MI	EET ALB	02/12/25 10:53
Total/NA	Prep	300_Prep			20592	DL	EET ALB	02/11/25 08:11
Total/NA	Analysis	300.0		20	20610	DL	EET ALB	02/11/25 15:54

Client Sample ID: BS25-05 @ 0'
Lab Sample ID: 885-19592-5
Date Collected: 02/06/25 10:15
Matrix: Solid
Date Received: 02/08/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			20578	AT	EET ALB	02/10/25 15:28
Total/NA	Analysis	8015M/D		1	20756	AT	EET ALB	02/13/25 17:21
Total/NA	Prep	5030C			20578	AT	EET ALB	02/10/25 15:28
Total/NA	Analysis	8021B		1	20757	AT	EET ALB	02/13/25 17:21
Total/NA	Prep	SHAKE			20672	MI	EET ALB	02/12/25 08:00
Total/NA	Analysis	8015M/D		1	20669	MI	EET ALB	02/12/25 11:03
Total/NA	Prep	300_Prep			20592	DL	EET ALB	02/11/25 08:11
Total/NA	Analysis	300.0		50	20670	ES	EET ALB	02/12/25 11:27

Client Sample ID: BS25-06 @ 0'
Lab Sample ID: 885-19592-6
Date Collected: 02/06/25 10:28
Matrix: Solid
Date Received: 02/08/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			20578	AT	EET ALB	02/10/25 15:28
Total/NA	Analysis	8015M/D		1	20756	AT	EET ALB	02/13/25 17:43
Total/NA	Prep	5030C			20578	AT	EET ALB	02/10/25 15:28
Total/NA	Analysis	8021B		1	20757	AT	EET ALB	02/13/25 17:43
Total/NA	Prep	SHAKE			20672	MI	EET ALB	02/12/25 08:00
Total/NA	Analysis	8015M/D		1	20669	MI	EET ALB	02/12/25 11:14
Total/NA	Prep	300_Prep			20592	DL	EET ALB	02/11/25 08:11
Total/NA	Analysis	300.0		20	20610	DL	EET ALB	02/11/25 16:14

Client Sample ID: BS25-07 @ 0'
Lab Sample ID: 885-19592-7
Date Collected: 02/06/25 10:39
Matrix: Solid
Date Received: 02/08/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			20578	AT	EET ALB	02/10/25 15:28
Total/NA	Analysis	8015M/D		1	20756	AT	EET ALB	02/13/25 18:04
Total/NA	Prep	5030C			20578	AT	EET ALB	02/10/25 15:28
Total/NA	Analysis	8021B		1	20757	AT	EET ALB	02/13/25 18:04

Lab Chronicle

Client: Vertex
Job ID: 885-19592-1
Project/Site: Cottondraw 14 Fed Com 1H

Client Sample ID: BS25-07 @ 0'
Lab Sample ID: 885-19592-7
Date Collected: 02/06/25 10:39
Matrix: Solid
Date Received: 02/08/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	SHAKE			20672	MI	EET ALB	02/12/25 08:00
Total/NA	Analysis	8015M/D		1	20669	MI	EET ALB	02/12/25 11:25
Total/NA	Prep	300_Prep			20592	DL	EET ALB	02/11/25 08:11
Total/NA	Analysis	300.0		20	20610	DL	EET ALB	02/11/25 16:43

Client Sample ID: BS25-08 @ 0'
Lab Sample ID: 885-19592-8
Date Collected: 02/06/25 10:50
Matrix: Solid
Date Received: 02/08/25 08:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			20578	AT	EET ALB	02/10/25 15:28
Total/NA	Analysis	8015M/D		1	20756	AT	EET ALB	02/13/25 18:26
Total/NA	Prep	5030C			20578	AT	EET ALB	02/10/25 15:28
Total/NA	Analysis	8021B		1	20757	AT	EET ALB	02/13/25 18:26
Total/NA	Prep	SHAKE			20672	MI	EET ALB	02/12/25 08:00
Total/NA	Analysis	8015M/D		1	20669	MI	EET ALB	02/12/25 11:36
Total/NA	Prep	300_Prep			20592	DL	EET ALB	02/11/25 08:11
Total/NA	Analysis	300.0		20	20610	DL	EET ALB	02/11/25 16:53

Laboratory References:
EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

Accreditation/Certification Summary

Client: Vertex Job ID: 885-19592-1
Project/Site: Cottondraw 14 Fed Com 1H

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
300.0	300_Prep	Solid	Chloride
8015M/D	5030C	Solid	Gasoline Range Organics (GRO)-C6-C10
8015M/D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015M/D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5030C	Solid	Benzene
8021B	5030C	Solid	Ethylbenzene
8021B	5030C	Solid	Toluene
8021B	5030C	Solid	Xylenes, Total

Oregon	NELAP	NM100001	02-25-25

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Received by OCD: 6/6/2025 11:49:16 AM

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Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
EL Paso, TX (915) 585-3443, Lubbock, TX (808) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199
Little Rock, AR (501) 224-5060

Work Order No: _____ 885-19592 COC

Page 1 of 1

Project Manager:	Sally Carttar	Bill to: (if different)	Devon Energy Production
Company Name:	Vertex	Company Name.	
Address:	3101 Boyd Dr	Address:	
City, State ZIP.	Carlsbad, NM, 88220	City, State ZIP:	
Phone:	575-361-3561 Email:	Scarttar@vesterresource.com	

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name.	Cotton Draw 14 Fed Com #4	Turn Around	
Project Number:	23E-04453	☑ Routine ☐ Rush	
Project Location:		Due Date: 5 DAY	
Sampler's Name:	Riley Arnold	TAT starts the day received by the lab, if received by 4.30pm	
PO #:			

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Samples Received Intact:	Yes No	Thermometer ID:		
Cooler Custody Seals:	Yes No N/A	Correction Factor:		
Sample Custody Seals:	Yes No N/A	Temperature Reading.		
Total Containers:		Corrected Temperature.		

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	BTEX	TPH: 8015	Chloride
BS25-01 @ 0'	Soil	2.6.25	0930	0	C	1				
BS25-02 @ 0'			0942							
BS25-03 @ 0'			0950							
BS25-04 @ 0'			1006							
BS25-05 @ 0'			1015							
BS25-06 @ 0'			1029							
BS25-07 @ 0'			1039							
BS25-08 @ 0'			1050							

Preservative Codes

None: NO — DI Water: H_2O
Cool: Cool — MeOH: Me
HCL: HC — HNO_3
H_2SO_4: H_2 — NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Comments

SAMPLE TIMES FROM CONTAINER LABELS.
SCM 2/18/25

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010:** 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of $85.00 will be applied to each project and a charge of $5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 [signature]	[signature]	2/7/25 1410	2 [signature]	SCM COURIER	2/8/25 0805
3			4		
5			6		

ICE 1.5+0.1=1.6°C MOJO

Revised Date: 08/25/2020 Rev 2020.2

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-19592-1

Login Number: 19592 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: McQuiston, Steven

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	No date or time on COC or containers.
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Kent Stallings
Vertex
3101 Boyd Dr
Carlsbad, New Mexico 88220

Generated 6/3/2025 12:03:34 PM

JOB DESCRIPTION

Cotton Draw 14 Fed Com #1H

JOB NUMBER

885-25572-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

Released to Imaging: 7/16/2025 3:05:58 PM

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization

Generated
6/3/2025 12:03:34 PM

Authorized for release by
Andy Freeman, Business Unit Manager
andy.freeman@et.eurofinsus.com
(505)345-3975

Client: Vertex
Project/Site: Cotton Draw 14 Fed Com #1H

Laboratory Job ID: 885-25572-1

Table of Contents

Definitions/Glossary

Client: Vertex Job ID: 885-25572-1
Project/Site: Cotton Draw 14 Fed Com #1H

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Vertex Job ID: 885-25572-1
Project: Cotton Draw 14 Fed Com #1H

Job ID: 885-25572-1 Eurofins Albuquerque

Job Narrative
885-25572-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 5/28/2025 7:50 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.2°C.

Gasoline Range Organics
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Vertex
Job ID: 885-25572-1
Project/Site: Cotton Draw 14 Fed Com #1H

Client Sample ID: BH25-12 0'
Lab Sample ID: 885-25572-1
Date Collected: 05/23/25 10:40
Matrix: Solid
Date Received: 05/28/25 07:50

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.9		mg/Kg		05/29/25 13:36	05/30/25 16:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*15 - 150*	*05/29/25 13:36*	*05/30/25 16:43*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		05/29/25 13:36	05/30/25 16:43	1
Ethylbenzene	ND		0.049		mg/Kg		05/29/25 13:36	05/30/25 16:43	1
Toluene	ND		0.049		mg/Kg		05/29/25 13:36	05/30/25 16:43	1
Xylenes, Total	ND		0.098		mg/Kg		05/29/25 13:36	05/30/25 16:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*15 - 150*	*05/29/25 13:36*	*05/30/25 16:43*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.3		mg/Kg		05/29/25 16:02	05/30/25 02:36	1
Motor Oil Range Organics [C28-C40]	ND		47		mg/Kg		05/29/25 16:02	05/30/25 02:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*116*		*62 - 134*	*05/29/25 16:02*	*05/30/25 02:36*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		06/01/25 12:21	06/01/25 15:26	20

Client Sample Results

Client: Vertex
Job ID: 885-25572-1
Project/Site: Cotton Draw 14 Fed Com #1H

Client Sample ID: BH25-12 2'
Lab Sample ID: 885-25572-2
Date Collected: 05/23/25 11:00
Matrix: Solid
Date Received: 05/28/25 07:50

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.9		mg/Kg		05/29/25 13:36	05/30/25 17:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*15 - 150*	*05/29/25 13:36*	*05/30/25 17:05*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		05/29/25 13:36	05/30/25 17:05	1
Ethylbenzene	ND		0.049		mg/Kg		05/29/25 13:36	05/30/25 17:05	1
Toluene	ND		0.049		mg/Kg		05/29/25 13:36	05/30/25 17:05	1
Xylenes, Total	ND		0.099		mg/Kg		05/29/25 13:36	05/30/25 17:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*15 - 150*	*05/29/25 13:36*	*05/30/25 17:05*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.8		mg/Kg		05/29/25 16:02	05/30/25 02:47	1
Motor Oil Range Organics [C28-C40]	ND		49		mg/Kg		05/29/25 16:02	05/30/25 02:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*112*		*62 - 134*	*05/29/25 16:02*	*05/30/25 02:47*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**300**		60		mg/Kg		06/01/25 12:21	06/01/25 16:31	20

Client Sample Results

Client: Vertex
Job ID: 885-25572-1
Project/Site: Cotton Draw 14 Fed Com #1H

Client Sample ID: BH25-13 0'
Lab Sample ID: 885-25572-3
Date Collected: 05/23/25 11:10
Matrix: Solid
Date Received: 05/28/25 07:50

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.8		mg/Kg		05/29/25 13:36	05/30/25 17:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*15 - 150*	*05/29/25 13:36*	*05/30/25 17:26*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		05/29/25 13:36	05/30/25 17:26	1
Ethylbenzene	ND		0.048		mg/Kg		05/29/25 13:36	05/30/25 17:26	1
Toluene	ND		0.048		mg/Kg		05/29/25 13:36	05/30/25 17:26	1
Xylenes, Total	ND		0.096		mg/Kg		05/29/25 13:36	05/30/25 17:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*15 - 150*	*05/29/25 13:36*	*05/30/25 17:26*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.7		mg/Kg		05/29/25 16:02	05/30/25 02:58	1
Motor Oil Range Organics [C28-C40]	ND		49		mg/Kg		05/29/25 16:02	05/30/25 02:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*119*		*62 - 134*	*05/29/25 16:02*	*05/30/25 02:58*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		60		mg/Kg		06/01/25 12:21	06/01/25 16:45	20

Client Sample Results

Client: Vertex
Job ID: 885-25572-1
Project/Site: Cotton Draw 14 Fed Com #1H

Client Sample ID: BH25-13 2'
Lab Sample ID: 885-25572-4
Date Collected: 05/23/25 11:30
Matrix: Solid
Date Received: 05/28/25 07:50

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.8		mg/Kg		05/29/25 13:36	05/30/25 17:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*15 - 150*	*05/29/25 13:36*	*05/30/25 17:48*	*1*

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024		mg/Kg		05/29/25 13:36	05/30/25 17:48	1
Ethylbenzene	ND		0.048		mg/Kg		05/29/25 13:36	05/30/25 17:48	1
Toluene	ND		0.048		mg/Kg		05/29/25 13:36	05/30/25 17:48	1
Xylenes, Total	ND		0.096		mg/Kg		05/29/25 13:36	05/30/25 17:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*15 - 150*	*05/29/25 13:36*	*05/30/25 17:48*	*1*

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.6		mg/Kg		05/29/25 16:02	05/30/25 03:09	1
Motor Oil Range Organics [C28-C40]	ND		48		mg/Kg		05/29/25 16:02	05/30/25 03:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*107*		*62 - 134*	*05/29/25 16:02*	*05/30/25 03:09*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		61		mg/Kg		06/01/25 12:21	06/01/25 16:58	20

QC Sample Results

Client: Vertex
Project/Site: Cotton Draw 14 Fed Com #1H

Job ID: 885-25572-1

Method: 8015M/D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-27174/1-A
Matrix: Solid
Analysis Batch: 27240

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 27174

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		5.0		mg/Kg		05/29/25 13:35	05/30/25 13:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*15 - 150*	*05/29/25 13:35*	*05/30/25 13:49*	*1*

Lab Sample ID: LCS 885-27174/2-A
Matrix: Solid
Analysis Batch: 27240

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 27174

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			25.0	29.6		mg/Kg		118	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*231*		*15 - 150*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-27174/1-A
Matrix: Solid
Analysis Batch: 27241

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 27174

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg		05/29/25 13:35	05/30/25 13:49	1
Ethylbenzene	ND		0.050		mg/Kg		05/29/25 13:35	05/30/25 13:49	1
Toluene	ND		0.050		mg/Kg		05/29/25 13:35	05/30/25 13:49	1
Xylenes, Total	ND		0.10		mg/Kg		05/29/25 13:35	05/30/25 13:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*15 - 150*	*05/29/25 13:35*	*05/30/25 13:49*	*1*

Lab Sample ID: LCS 885-27174/3-A
Matrix: Solid
Analysis Batch: 27241

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 27174

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			1.00	1.07		mg/Kg		107	70 - 130		
Ethylbenzene			1.00	1.08		mg/Kg		108	70 - 130		
m-Xylene & p-Xylene			2.00	2.20		mg/Kg		110	70 - 130		
o-Xylene			1.00	1.09		mg/Kg		109	70 - 130		
Toluene			1.00	1.05		mg/Kg		105	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*15 - 150*

QC Sample Results

Client: Vertex
Project/Site: Cotton Draw 14 Fed Com #1H

Job ID: 885-25572-1

Method: 8015M/D - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 885-27195/1-A
Matrix: Solid
Analysis Batch: 27142

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 27195

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg		05/29/25 16:02	05/30/25 01:41	1
Motor Oil Range Organics [C28-C40]	ND		50		mg/Kg		05/29/25 16:02	05/30/25 01:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Di-n-octyl phthalate (Surr)	*108*		*62 - 134*	*05/29/25 16:02*	*05/30/25 01:41*	*1*

Lab Sample ID: LCS 885-27195/2-A
Matrix: Solid
Analysis Batch: 27142

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 27195

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]			50.0	53.9		mg/Kg		108	51 - 148		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*105*		*62 - 134*

Lab Sample ID: 885-25572-4 MS
Matrix: Solid
Analysis Batch: 27142

Client Sample ID: BH25-13 2'
Prep Type: Total/NA
Prep Batch: 27195

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics [C10-C28]	ND		49.3	51.4		mg/Kg		104	44 - 136		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*110*		*62 - 134*

Lab Sample ID: 885-25572-4 MSD
Matrix: Solid
Analysis Batch: 27142

Client Sample ID: BH25-13 2'
Prep Type: Total/NA
Prep Batch: 27195

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]	ND		46.9	51.6		mg/Kg		110	44 - 136	0	32

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Di-n-octyl phthalate (Surr)	*116*		*62 - 134*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-27321/1-A
Matrix: Solid
Analysis Batch: 27322

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 27321

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/Kg		06/01/25 12:21	06/01/25 13:34	1

QC Sample Results

Client: Vertex
Project/Site: Cotton Draw 14 Fed Com #1H

Job ID: 885-25572-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 885-27321/2-A
Matrix: Solid
Analysis Batch: 27322

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 27321

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			30.0	31.9		mg/Kg		106	90 - 110		

Lab Sample ID: 885-25572-1 MS
Matrix: Solid
Analysis Batch: 27322

Client Sample ID: BH25-12 0'
Prep Type: Total/NA
Prep Batch: 27321

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	ND		30.0	ND		mg/Kg		NC	50 - 150		

Lab Sample ID: 885-25572-1 MSD
Matrix: Solid
Analysis Batch: 27322

Client Sample ID: BH25-12 0'
Prep Type: Total/NA
Prep Batch: 27321

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	ND		30.0	ND		mg/Kg		NC	50 - 150	NC	20

QC Association Summary

Client: Vertex
Job ID: 885-25572-1
Project/Site: Cotton Draw 14 Fed Com #1H

GC VOA

Prep Batch: 27174

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-25572-1	BH25-12 0'	Total/NA	Solid	5030C	
885-25572-2	BH25-12 2'	Total/NA	Solid	5030C	
885-25572-3	BH25-13 0'	Total/NA	Solid	5030C	
885-25572-4	BH25-13 2'	Total/NA	Solid	5030C	
MB 885-27174/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-27174/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-27174/3-A	Lab Control Sample	Total/NA	Solid	5030C	

Analysis Batch: 27240

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-25572-1	BH25-12 0'	Total/NA	Solid	8015M/D	27174
885-25572-2	BH25-12 2'	Total/NA	Solid	8015M/D	27174
885-25572-3	BH25-13 0'	Total/NA	Solid	8015M/D	27174
885-25572-4	BH25-13 2'	Total/NA	Solid	8015M/D	27174
MB 885-27174/1-A	Method Blank	Total/NA	Solid	8015M/D	27174
LCS 885-27174/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	27174

Analysis Batch: 27241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-25572-1	BH25-12 0'	Total/NA	Solid	8021B	27174
885-25572-2	BH25-12 2'	Total/NA	Solid	8021B	27174
885-25572-3	BH25-13 0'	Total/NA	Solid	8021B	27174
885-25572-4	BH25-13 2'	Total/NA	Solid	8021B	27174
MB 885-27174/1-A	Method Blank	Total/NA	Solid	8021B	27174
LCS 885-27174/3-A	Lab Control Sample	Total/NA	Solid	8021B	27174

GC Semi VOA

Analysis Batch: 27142

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-25572-1	BH25-12 0'	Total/NA	Solid	8015M/D	27195
885-25572-2	BH25-12 2'	Total/NA	Solid	8015M/D	27195
885-25572-3	BH25-13 0'	Total/NA	Solid	8015M/D	27195
885-25572-4	BH25-13 2'	Total/NA	Solid	8015M/D	27195
MB 885-27195/1-A	Method Blank	Total/NA	Solid	8015M/D	27195
LCS 885-27195/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	27195
885-25572-4 MS	BH25-13 2'	Total/NA	Solid	8015M/D	27195
885-25572-4 MSD	BH25-13 2'	Total/NA	Solid	8015M/D	27195

Prep Batch: 27195

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-25572-1	BH25-12 0'	Total/NA	Solid	SHAKE	
885-25572-2	BH25-12 2'	Total/NA	Solid	SHAKE	
885-25572-3	BH25-13 0'	Total/NA	Solid	SHAKE	
885-25572-4	BH25-13 2'	Total/NA	Solid	SHAKE	
MB 885-27195/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-27195/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
885-25572-4 MS	BH25-13 2'	Total/NA	Solid	SHAKE	
885-25572-4 MSD	BH25-13 2'	Total/NA	Solid	SHAKE	

QC Association Summary

Client: Vertex Job ID: 885-25572-1
Project/Site: Cotton Draw 14 Fed Com #1H

HPLC/IC

Prep Batch: 27321

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-25572-1	BH25-12 0'	Total/NA	Solid	300_Prep	
885-25572-2	BH25-12 2'	Total/NA	Solid	300_Prep	
885-25572-3	BH25-13 0'	Total/NA	Solid	300_Prep	
885-25572-4	BH25-13 2'	Total/NA	Solid	300_Prep	
MB 885-27321/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-27321/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	
885-25572-1 MS	BH25-12 0'	Total/NA	Solid	300_Prep	
885-25572-1 MSD	BH25-12 0'	Total/NA	Solid	300_Prep	

Analysis Batch: 27322

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-25572-1	BH25-12 0'	Total/NA	Solid	300.0	27321
885-25572-2	BH25-12 2'	Total/NA	Solid	300.0	27321
885-25572-3	BH25-13 0'	Total/NA	Solid	300.0	27321
885-25572-4	BH25-13 2'	Total/NA	Solid	300.0	27321
MB 885-27321/1-A	Method Blank	Total/NA	Solid	300.0	27321
LCS 885-27321/2-A	Lab Control Sample	Total/NA	Solid	300.0	27321
885-25572-1 MS	BH25-12 0'	Total/NA	Solid	300.0	27321
885-25572-1 MSD	BH25-12 0'	Total/NA	Solid	300.0	27321

Lab Chronicle

Client: Vertex
Job ID: 885-25572-1
Project/Site: Cotton Draw 14 Fed Com #1H

Client Sample ID: BH25-12 0'
Lab Sample ID: 885-25572-1
Date Collected: 05/23/25 10:40
Matrix: Solid
Date Received: 05/28/25 07:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			27174	JE	EET ALB	05/29/25 13:36
Total/NA	Analysis	8015M/D		1	27240	AT	EET ALB	05/30/25 16:43
Total/NA	Prep	5030C			27174	JE	EET ALB	05/29/25 13:36
Total/NA	Analysis	8021B		1	27241	AT	EET ALB	05/30/25 16:43
Total/NA	Prep	SHAKE			27195	MI	EET ALB	05/29/25 16:02
Total/NA	Analysis	8015M/D		1	27142	MI	EET ALB	05/30/25 02:36
Total/NA	Prep	300_Prep			27321	JT	EET ALB	06/01/25 12:21
Total/NA	Analysis	300.0		20	27322	JT	EET ALB	06/01/25 15:26

Client Sample ID: BH25-12 2'
Lab Sample ID: 885-25572-2
Date Collected: 05/23/25 11:00
Matrix: Solid
Date Received: 05/28/25 07:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			27174	JE	EET ALB	05/29/25 13:36
Total/NA	Analysis	8015M/D		1	27240	AT	EET ALB	05/30/25 17:05
Total/NA	Prep	5030C			27174	JE	EET ALB	05/29/25 13:36
Total/NA	Analysis	8021B		1	27241	AT	EET ALB	05/30/25 17:05
Total/NA	Prep	SHAKE			27195	MI	EET ALB	05/29/25 16:02
Total/NA	Analysis	8015M/D		1	27142	MI	EET ALB	05/30/25 02:47
Total/NA	Prep	300_Prep			27321	JT	EET ALB	06/01/25 12:21
Total/NA	Analysis	300.0		20	27322	JT	EET ALB	06/01/25 16:31

Client Sample ID: BH25-13 0'
Lab Sample ID: 885-25572-3
Date Collected: 05/23/25 11:10
Matrix: Solid
Date Received: 05/28/25 07:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			27174	JE	EET ALB	05/29/25 13:36
Total/NA	Analysis	8015M/D		1	27240	AT	EET ALB	05/30/25 17:26
Total/NA	Prep	5030C			27174	JE	EET ALB	05/29/25 13:36
Total/NA	Analysis	8021B		1	27241	AT	EET ALB	05/30/25 17:26
Total/NA	Prep	SHAKE			27195	MI	EET ALB	05/29/25 16:02
Total/NA	Analysis	8015M/D		1	27142	MI	EET ALB	05/30/25 02:58
Total/NA	Prep	300_Prep			27321	JT	EET ALB	06/01/25 12:21
Total/NA	Analysis	300.0		20	27322	JT	EET ALB	06/01/25 16:45

Client Sample ID: BH25-13 2'
Lab Sample ID: 885-25572-4
Date Collected: 05/23/25 11:30
Matrix: Solid
Date Received: 05/28/25 07:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			27174	JE	EET ALB	05/29/25 13:36
Total/NA	Analysis	8015M/D		1	27240	AT	EET ALB	05/30/25 17:48

Lab Chronicle

Client: Vertex
Job ID: 885-25572-1
Project/Site: Cotton Draw 14 Fed Com #1H

Client Sample ID: BH25-13 2'
Lab Sample ID: 885-25572-4
Date Collected: 05/23/25 11:30
Matrix: Solid
Date Received: 05/28/25 07:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			27174	JE	EET ALB	05/29/25 13:36
Total/NA	Analysis	8021B		1	27241	AT	EET ALB	05/30/25 17:48
Total/NA	Prep	SHAKE			27195	MI	EET ALB	05/29/25 16:02
Total/NA	Analysis	8015M/D		1	27142	MI	EET ALB	05/30/25 03:09
Total/NA	Prep	300_Prep			27321	JT	EET ALB	06/01/25 12:21
Total/NA	Analysis	300.0		20	27322	JT	EET ALB	06/01/25 16:58

Laboratory References:

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

Accreditation/Certification Summary

Client: Vertex Job ID: 885-25572-1
Project/Site: Cotton Draw 14 Fed Com #1H

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-27-26

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
300.0	300_Prep	Solid	Chloride
8015M/D	5030C	Solid	Gasoline Range Organics (GRO)-C6-C10
8015M/D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015M/D	SHAKE	Solid	Motor Oil Range Organics [C28-C40]
8021B	5030C	Solid	Benzene
8021B	5030C	Solid	Ethylbenzene
8021B	5030C	Solid	Toluene
8021B	5030C	Solid	Xylenes, Total

Oregon	NELAP	NM100001	02-26-26

Released to Imaging: 7/16/2025 3:05:38 PM
Received by OCD: 6/6/2025 11:49:16 AM

Chain-of-Custody Record

Client: **Vertex**

(direct bill to Devon)

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other_____

☐ EDD (Type) _____

Turn-Around Time:

☒ Standard ☒ Rush 4 Day

Project Name:

Cotton Draw 14 Fed Com #1H

Project #:

23E-04453

Project Manager:

Kent Stallings

kstallings@vertex.ca

Sampler: S.Mc Carty

On Ice: ☒ Yes ☐ No

# of Coolers: 1 Mojo

Cooler Temp(including CF): 1.0+0.2=1.2°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 8710

Tel. 505-345-3975 Fax 505-345-4107

885-25572 COC

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
5/23/25	10:40	Soil	BH25-12 0'	1, 4oz jar	ICE		X	X					X			
5/23/25	11:00	Soil	BH25-12 2'	1, 4oz jar	ICE		X	X					X			
5/23/25	11:10	Soil	BH25-13 0'	1, 4oz jar	ICE		X	X					X			
5/23/25	11:30	Soil	BH25-13 2'	1, 4oz jar	ICE		X	X					X			

Date	Time	Relinquished by	Received by	Via	Date	Time
5/23/25	1500	Steph McCarty				
5/27/25	1910		SCM	COURIER	5/28/25	0740

Remarks:
Direct bill to Devon, Jim Raley
cc. kstallings@vertexresource.com, scarttar@vertexresource.com, permain@vertexresource.com smccarty@vertexresource.com for Final Report

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Login Sample Receipt Checklist

Client: Vertex Job Number: 885-25572-1

Login Number: 25572 **List Source: Eurofins Albuquerque**
List Number: 1
Creator: Dominguez, Desiree

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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State of New Mexico
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Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

QUESTIONS

Action 471600

QUESTIONS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 471600
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAB1620452870**
Incident Name	**NAB1620452870 COTTON DRAW 14 FED COM #001H @ 30-015-42091**
Incident Type	**Produced Water Release**
Incident Status	**Remediation Closure Report Received**
Incident Well	**[30-015-42091] COTTON DRAW 14 FED COM #001H**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	COTTON DRAW 14 FED COM #001H
Date Release Discovered	07/17/2016
Surface Owner	Federal

Incident Details	
Please answer all the questions in this group.	
Incident Type	Produced Water Release
Did this release result in a fire or is the result of a fire	No
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	*Not answered.*
Produced Water Released (bbls) Details	Cause: Equipment Failure | Valve | Produced Water | Released: 60 BBL | Recovered: 45 BBL | Lost: 15 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	*Not answered.*
Natural Gas Vented (Mcf) Details	*Not answered.*
Natural Gas Flared (Mcf) Details	*Not answered.*
Other Released Details	*Not answered.*
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	*Not answered.*

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QUESTIONS (continued)

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	Action Number: 471600
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QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	**No, according to supplied volumes this does not appear to be a "gas only" report.**
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	**Yes**
Reasons why this would be considered a submission for a notification of a major release	**From paragraph A. "Major release" determine using:** **(1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.**
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

Initial Response	
The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury.	
The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	*Not answered.*
Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.	

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

I hereby agree and sign off to the above statement	Name: James Raley Title: EHS Professional Email: jim.raley@dvn.com Date: 06/06/2025

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QUESTIONS (continued)

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 471600
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Site Characterization	
Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 51 and 75 (ft.)
What method was used to determine the depth to ground water	Direct Measurement
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 1 and 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Greater than 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 1 and 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1 and 5 (mi.)
Any other fresh water well or spring	Between 1 and 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Between 1 and 5 (mi.)
A wetland	Between ½ and 1 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Between 1 and 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan		
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.		
Requesting a remediation plan approval with this submission		Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.		
Have the lateral and vertical extents of contamination been fully delineated		Yes
Was this release entirely contained within a lined containment area		No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)		
Chloride	(EPA 300.0 or SM4500 Cl B)	770
TPH (GRO+DRO+MRO)	(EPA SW-846 Method 8015M)	37
GRO+DRO	(EPA SW-846 Method 8015M)	37
BTEX	(EPA SW-846 Method 8021B or 8260B)	0
Benzene	(EPA SW-846 Method 8021B or 8260B)	0
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.		
On what estimated date will the remediation commence		12/11/2024
On what date will (or did) the final sampling or liner inspection occur		02/06/2025
On what date will (or was) the remediation complete(d)		05/23/2025
What is the estimated surface area (in square feet) that will be reclaimed		728
What is the estimated volume (in cubic yards) that will be reclaimed		108
What is the estimated surface area (in square feet) that will be remediated		0
What is the estimated volume (in cubic yards) that will be remediated		0
These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.		
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.		

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QUESTIONS (continued)

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	Action Number: 471600
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Remediation Plan (continued)	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
(Select all answers below that apply.)	
(Ex Situ) Excavation and **off-site** disposal (i.e. dig and haul, hydrovac, etc.)	No
(Ex Situ) Excavation and **on-site** remediation (i.e. On-Site Land Farms)	No
(In Situ) Soil Vapor Extraction	No
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	No
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	No
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	No
Ground Water Abatement pursuant to 19.15.30 NMAC	No
OTHER (Non-listed remedial process)	Yes
Other Non-listed Remedial Process. Please specify	Soils can remain in place
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
I hereby agree and sign off to the above statement	Name: James Raley Title: EHS Professional Email: jim.raley@dvn.com Date: 06/06/2025
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

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	Action Number: 471600
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Deferral Requests Only *Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.*	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

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QUESTIONS (continued)

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	Action Number: 471600
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	**427897**
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	**02/06/2025**
What was the (estimated) number of samples that were to be gathered	**8**
What was the sampling surface area in square feet	**1540**

Remediation Closure Request	
Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.	
Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	**Yes**
Was this release entirely contained within a lined containment area	**No**
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	0
What was the total volume (cubic yards) remediated	0
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	0
What was the total volume (in cubic yards) reclaimed	0
Summarize any additional remediation activities not included by answers (above)	Meets Closure Criteria

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (in .pdf format) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

I hereby agree and sign off to the above statement	Name: James Raley Title: EHS Professional Email: jim.raley@dvn.com Date: 06/06/2025

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QUESTIONS (continued)

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	Action Number: 471600
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Reclamation Report	
Only answer the questions in this group if all reclamation steps have been completed.	
Requesting a reclamation approval with this submission	No

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CONDITIONS

Action 471600

CONDITIONS

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CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your Remediation Closure Report for Incident #NAB1620452870 COTTON DRAW 14 FED COM #001H, thank you. This Remediation Closure Report is approved.	7/16/2025